OCT. 30 1959

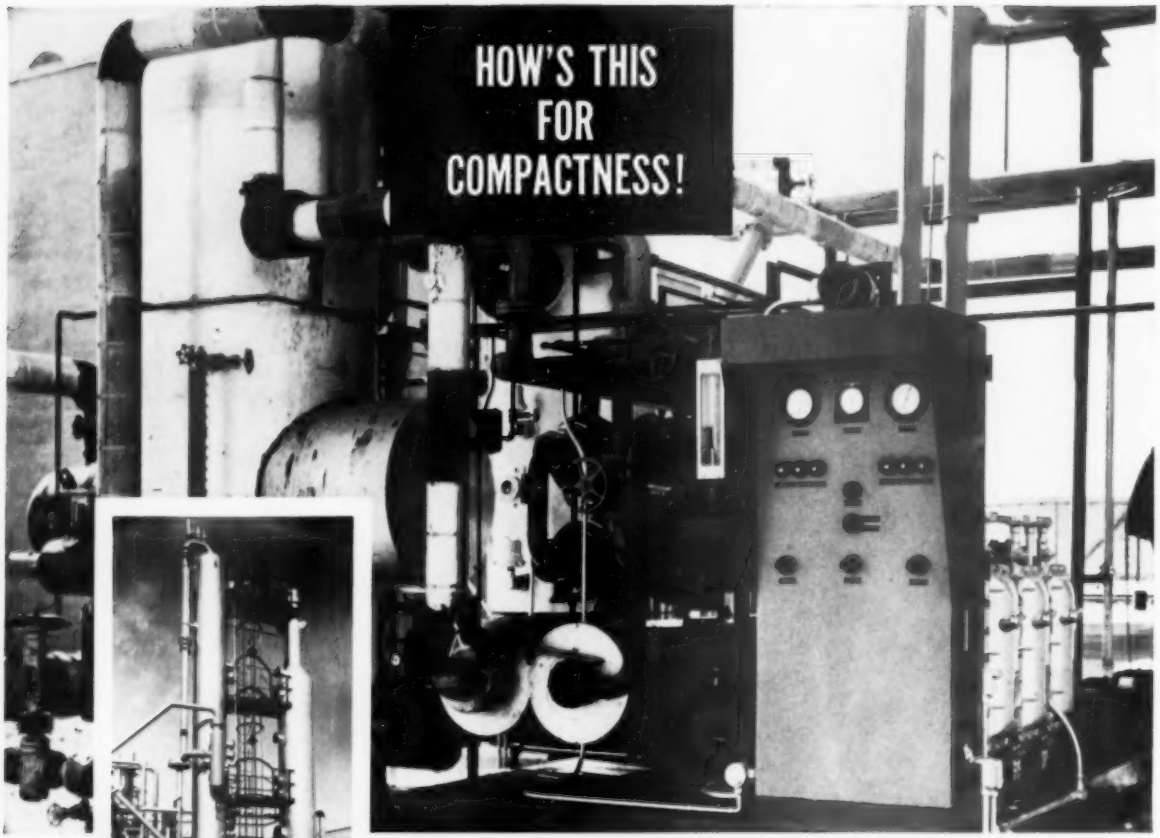
PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

1960 oil demand to top 10-million b/d ... 11
Control of costs keeps earnings high 14
Oil still 'getting by' despite steel pinch ... 15
California offshore drilling perks up 18
New Mexico studies proration rules 20
Conoco tries anodic corrosion control 30
Light-weight engine can use many fuels .. 31
More storage to aid propane shipments .. 34
Dollars, not gallons, set market pace 36
Venezuela faces 'most difficult' time 38

Price 50 Cents

UNIV MICROFILMS INC
EDITORIAL DEPT
313 N FIRST ST
ANN ARBOR MICH A C 9



HOW'S THIS FOR COMPACTNESS!

LOOK WHAT IT CAN DO

Packaged Inert Gas Equipment by Southwest can do many jobs and do them well. As a Nitrogen Generator, 40 MSCF/H nitrogen with a purity of 99.9% are being produced. As a Desulfurization Unit 14 MMSCF/D of natural gas containing 1.5% H_2S- can be processed to pipeline requirements. A unit of this same compact design can generate high purity CO_2 in quantities up to 20 tons/day.

Southwest also designs, engineers, builds, and installs packaged gas compressors and packaged gasoline plants.

Southwest

INERT GAS EQUIPMENT

is available in any capacity for indoor or outdoor service, completely packaged, yet custom designed. Units are designed for easy maintenance and low cost operation. Equipment employs the conventional regenerative monoethanolamine (MEA) cycle; but, because of very accurate control of temperatures, pressures, and flows, effluent streams meet the most rigid gas analysis specifications with lowest cost of operation. The twin tower design with a common ladder simplifies maintenance. Safety and protective devices are designed to "fail safe." For earlier delivery, for low initial cost, and for most efficient operation, call a Southwest engineer. He'll have the answers you want.

SOUTHWEST INDUSTRIES, INC.

P. O. Box 19392, Houston 24, Texas

SINCLAIR GARY and a sister ship are the only tankers in Greater Chicago area specially designed for offshore fueling service.

Only Sinclair Could Quench This Navy Thirst

This year, for the first time, deep-water ships of the U. S. Navy sailed the Great Lakes. A task force of 22 vessels visited important ports on a special training mission. And, having traveled light to pass through the new Seaway, 22 ships were thirsty for fuel by the time they dropped anchor at Chicago, far from home base.

To quench this thirst *the Navy called on Sinclair Refining Company,* the only supplier equipped to make volume deliveries offshore. In a round-the-clock operation, 2,500,000 gallons of heavy oil were pumped into ships' bunkers. The task force sailed on schedule.

The ability of its marketing subsidiary to deliver quality products with the most modern equipment is one reason why Sinclair Oil Corporation, measured by total assets, is the *nation's sixteenth largest industrial company.*

Sinclair

A Great Name in Oil

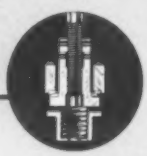
SINCLAIR OIL CORPORATION • 600 FIFTH AVENUE • NEW YORK 20, N. Y.

Big Drawworks with Small Rig Simplicity

Rated at 900 to 1400 net input horsepower, the Mid-Continent U-914-C Drawworks offers the drilling industry all the desirable features of a large rig, while retaining the flexibility and simplicity of operation of smaller units. The U-914-C is designed as a single package unit containing hoisting drum, transmission, rotary drive, and auxiliary brake on a single skid. Rugged in construction and smooth in operation, this unit provides dependable, economical and trouble-free service to meet present day drilling practices. For complete information, contact your local Mid-Continent representative.

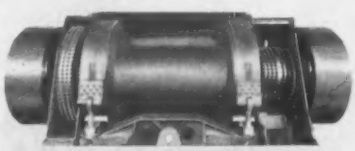
SELF-EQUALIZING 52" x 10" BRAKES

Double adjustment, individually equalized bands have spring loaded spherical dead-end equalizer seats which eliminate bending of the dead-end pins.



EXTRA LARGE BALANCED DRUM FAWICK VC CLUTCHES

A 29" diameter by 53¼" long drum provides three wrap spooling when hoisting 90-foot stands with a 10 line reaving system using 1¼" wire line and LeBus grooving. Hi- and lo-drum clutches are identical 38VC1200 Fawick Ventorque. A splined clutch is provided on the lo-drum side for emergency use.



ALL BEARINGS GREASE LUBRICATED UNITIZED CONTROLS

MID-CONTINENT SUPPLY CO.

MID-CONTINENT BUILDING • FORT WORTH, TEXAS

Export Division: 45 Rockefeller Plaza, New York 20, N. Y. Cable: MIDCUMPORT NYK

PETROLEUM WEEK

Publisher—Ervin E. DeGraff
Editor—LeRoy Menzing

Managing Editor—Richard M. Machol
General News—Robert E. Spann, editor; J. Richard Shaner, Larry Christiansen, Jr.
Columnist & International Editor—Wanda M. Jablonski
Regional Editor—Glenn Green, Jr. (Houston)
Management Editor—John Barton
Exploration, Drilling & Production—Ade Ponikvar, editor; Jim Bower
Processing & Petrochemicals Editor—Rene J. Bender
Pipeline, Tanker & Storage Editor—Vincent W. De Salvo
Foreign News—Georgia Macris, Robert F. Doviak
Marketing Editor—Robert L. Siegel
Market Trend—Halsey Peckworth
District Editors
Dallas—Marvin Reid *Tulsa*—Jim Mayes *Bakersfield*—William Rintoul
Houston—Eugene Bush *Chicago*—Stewart Ramsey *Los Angeles*—Kemp Anderson
Presentation—William A. Caperell, Jr., director; Mildred Schutte
Editorial Assistants—Dorothy Miller (Chicago), Carole A. Masucci, Margaret Graham
Librarian—Helen T. Schaefer **Reprint Service**—Joanne Florio
Domestic News Service
Chicago Bureau—Elizabeth L. Wilson, Bruce Cross
Cleveland Bureau—Arthur Zimmerman, chief; Violet Forsha
Dallas Bureau—Mary Lorraine Smith, Alice Mann
Detroit Bureau—Donald MacDonald, chief; Sally Ayling
Los Angeles Bureau—Michael Murphy, Jack Meyer, Marvin Petal
San Francisco Bureau—Jenness Keene, chief; Donald Winston
Washington Bureau—George B. Bryant, Jr., chief; Glen Bayless, Dean Reed, D. O. Loomis, Roy Calvin, Ernest Conine, Seth Payne
Correspondents: Albuquerque, Anchorage, Atlanta, Austin, Baton Rouge, Billings, Bismarck, Calgary, Casper, Cheyenne, Corpus Christi, Denver, Edmonton, Evansville, Farmington, Ft. Worth, Jackson (Miss.), Little Rock, Midland, Mobile, Montreal, New Orleans, Odessa, Oklahoma City, Ottawa, Philadelphia, Phoenix, Pittsburgh, Regina, Sacramento, Salt Lake City, Seattle, Shreveport, Toronto, Vancouver
Foreign News Service
Middle East Bureau—Onnic Marashian, chief
Caracas Bureau—John Pearson, chief
Bonn Bureau—Morrie Helitzer, chief; Silke Brueckler, Jim Morrison, Helga Berendt
London Bureau—John Shinn, chief; John Tunstall, Derek Barlow
Mexico City Bureau—Peter Weaver, chief; Lourdes Marin
Moscow Bureau—Robert Gibson, chief; Victor Louis
Paris Bureau—Robert E. Farrell, chief; Helen Avati, Arthur Erikson
Tokyo Bureau—Sol Sanders, chief; Toshiko Matsumura, John Yamaguchi
Correspondents: Amsterdam, Ankara, Bogota, Bombay, Brussels, Buenos Aires, Cairo, Djakarta, Geneva, Guatemala City, Havana, Karachi, La Paz, Lima, Manila, Melbourne, Rabat, Rangoon, Rome, San Jose, Sao Paulo, Teheran, Vienna
Manager, McGraw-Hill World News Service—John Wilhelm, Margaret Ralston, managing editor
Economics Staff—Dexter M. Keezer, director; Robert P. Ulin
Assistant to the Publisher—William F. Bland
Business Department
Advertising Service Manager—John E. Thompson; *Western General Manager*—Donald O. Hanson; *Circulation Manager*—Harriet Costikyan; *Promotion Manager*—N. F. Cullinan; *Research Manager*—Leo M. Murray; *Advertising Makeup*—P. J. Callahan
Other McGraw-Hill Petroleum Publications
NATIONAL PETROLEUM NEWS PLATT'S OILGRAM NEWS AND PRICE SERVICES

PETROLEUM WEEK

October 30, 1959
Vol. 9, No. 18

Published weekly by McGraw-Hill Publishing Co., Inc. James H. McGraw (1860-1948), founder. Publication office: 871 N. Franklin St., Chicago 10, Ill. See panel below for directions regarding subscriptions or change of address.

Executive, Editorial, Circulation and Advertising Offices: 330 W. 42nd St., New York 36, N. Y. Donald C. McGraw, President; Joseph A. Gerardi, Executive Vice President; L. Keith Goodrich, Vice President and Treasurer; John J. Cooke, Secretary. Officers of the Publications Division: Nelson L. Bond, President; Harry L. Waddell, Senior Vice President; John R. Callahan, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator.

Subscriptions are solicited only from executives, supervisors, and technically trained personnel in the oil and natural gas industries, who are engaged in exploration, drilling, producing, processing, petrochemical manufacture, transportation, or wholesale marketing. **Position and company connection must be indicated on subscription orders.** Subscription rates for all countries: $3 per year. Single copies 50¢. Second class postage paid at Chicago, Ill. Printed in U.S.A. Title registered in U.S. Patent Office. © Copyright 1959 by McGraw-Hill Publishing Co., Inc. All rights reserved.

Unconditional guarantee: Our primary aim is to provide subscribers with a useful and valuable publication. Any comments or suggestions for improvement will be most welcome. On written request from any subscriber, the publisher agrees to refund the unused portion of the subscription price.

Subscriptions: Address subscription correspondence and change of address to Fulfillment Manager, Petroleum Week, 330 W. 42nd St., New York 36, N. Y. On address changes please give old and new addresses and zone numbers, if any, and enclose an address label from a recent issue if possible. Please allow one month for change to become effective.

Postmaster: Please send form 3579 to Petroleum Week, 330 W. 42nd St., New York 36, N. Y.

INSIDE *Slant*

TRUE, BUT HARD TO BELIEVE

Statistics oft-times supply surprising information.

And there could be none more startling than that gleaned recently from the state controller of Texas.

A check of the gross receipts division of that office revealed that there actually are more individuals and companies paying oil production taxes today than a year ago.

There were approximately 6,100 individuals and concerns on the gross oil production tax rolls of Texas in October, 1958.

Today, the total approximates 6,700, or an increase of around 600.

It's a figure that is hard to believe, particularly in view of the fact that Texas producers have seen the number of producing days steadily decline.

For example, the producing days totaled 194 in 1955, declined to 190 in 1956, then to 171 in 1957 and to only 122 in 1958.

Should the state's present producing pattern of only nine days be continued in December, this year's total will be 122, the same as last year.

In spite of these facts, the oil industry definitely has a lure that attracts more and more to its ranks.

LeRoy Menzing
EDITOR

Good Wells Make Good News

A Monthly Report On Wells That Are Now Worth More

October 30, 1959

Many operators want to know just how jobs engineered with the aid of the "Frac Guide"* compare with others. It will be many months before the full story is available, but these four cases will give an idea.

- **Pembina Area, Alberta, Canada** (New Oil Well) This well was completed into the Cardium through perforations between 4187 and 4204 feet. Porosity was 13 per cent and permeability was 3.8 millidarcies. Using the "Frac Guide", Dowell recommended Sandfrac*. 25,000 gallons lease crude and 68,000 pounds sand were injected at 15 bpm. Result: Gas-oil ratio dropped. Production tested at 46 bopd flowing. Allowable is 33 bopd. Well has continued to flow with no drop in production, although offsetting wells fractured without the aid of the "Frac Guide" usually have to be put on the pump after producing about one month.

- **Lea County, New Mexico** (Old Oil Wells) Two offsetting wells were completed open hole into the Grayburg at about 4100 feet. Production had declined and operators decided to fracture both wells. One well was treated without the aid of the "Frac Guide". 15,000 gallons lease crude and 15,000 pounds sand were injected down casing. Production rose initially, but dropped to about 5 bopd after 120 days. Treatment for the other well was engineered with the "Frac Guide". 20,000 gallons refined oil and 50,000 pounds sand were injected down 3-inch tubing. Production rose to 90 bopd, flowing. After 120 days, it was still 45 bopd, flowing.

- **Ashtabula County, Ohio** (New Oil and Gas Well) This well, completed open hole into the Clinton sand (3135 to 3140 feet), made only a show of oil and gas before treatment. The "Frac Guide" was used to engineer a treatment with over twice the concentration of sand per gallon of fluid previously used in this area. 16,000 gallons fresh water with FLA* (Fluid Loss Additive) carried 32,000 pounds sand into the formation. Treatment was down 5½-inch casing at 34 bpm. After clean-up, well made 1000 mcfd and 25 bopd. It was the best well in the area.

- **Beaver County, Oklahoma** (New Gas Well) The lower Morrow sand was perforated from 7214 to 7245 feet. Well made only a show of gas after being cleaned up with 500 gallons Mud Acid. The "Frac Guide" indicated that Waterfrac should be used. 20,000 gallons gelled water and 59,000 pounds sand were pumped down 4½-inch casing at 39 bpm. After clean-up, well made 9900 mcfd on State test.

Take advantage of Dowell's experience with the "Frac Guide" to help you get more profit from your operations. For service or detailed information, contact the Dowell office or station nearest you. There are more than 165 locations in the United States, Canada, Venezuela and Argentina. Dowell, Tulsa 1, Oklahoma.

*Dowell Trademark

Services for the oil industry DOWELL

DIVISION OF THE DOW CHEMICAL COMPANY

60-Second Summary / WHAT'S HAPPENING IN OIL

October 30, 1959

dept/INDEX

Production	18
Pipelines	34
Processing	30
Marketing	36
Washington	17
Statistics	43
The Market Trend	44
Key Prices	45
Editorial	48
International	38
Personals	46
Service & Equipment	42

Barring a big hike in steel prices, the industry's outlook for 1960 appears bright. That's the view of a dozen economists, who predict that total demand next year will average 10,045,000 b/d, up 3.3%, and domestic output of crude and gas liquids will run 8,439,000 b/d, up 6.8%. . . . p. 11

•

Oil company profits are still running high. But third-quarter earnings weren't up as sharply as in the first half—mainly because of low product prices and the comparison with an upturn in profits in 1958. . . . p. 14

•

Venezuela's oil faces the "most difficult competitive situation in its history." That warning was sounded by Dr. Siro Vazquez, Jersey Standard's production coordinator. . . . p. 38

•

Conoco is hoping its anodic passivation method will lick corrosion. The process is somewhat similar to cathodic protection, but more extensive. . . . p. 30

•

The oil industry still hasn't been hard hit by the steel strike—despite a bruise here or there. Some companies say inventories are good for another 90 days. . . . p. 15

•

More underground storage facilities are spurring propane shipments. Texas Eastern expects deliveries through its Little Big Inch pipeline to climb to 2½-million bbl. . . . p. 34

•

Oil men are putting increased emphasis on "dollars, not gallons" in marketing. It's part of their re-evaluation of the market share concept and the trend to greater efficiency. . . . p. 36

•

New Mexico is studying the advisability of prorating waterflood production. It could set a precedent that would have a "tremendous" effect on the state's oil industry. . . . p. 20

•

Platform drilling is reaching the payout stage in California. A new submarine line is moving production from one offshore unit. And two more platforms are in the works. . . . p. 18

•

Drilling and completion costs jumped 74.3% in the past ten years. Even that is a conservative estimate, the Independent Petroleum Assn. of America says. Labor and casing are the cost-increase leaders. . . . p. 13

•

There's a light-weight, high-speed diesel engine on the market. It operates on a wide variety of fuels, and holds promise of overcoming many objections of the past. . . . p. 31

Up to the Minute

SIGNIFICANT LATE NEWS

October 30, 1959

The Independent Petroleum Assn. of America is spearheading a new approach to better public relations for the industry. At its Dallas meeting, it sponsored an informal get-together of public relations specialists, who agreed that a "coordinated, cohesive" effort is urgently needed. IPAA was asked to set up another meeting at which problem areas could be isolated, and procedures set up for handling them.

No formal, official structure is expected to come out of the movement, but closer liaison is being sought. "It should help the industry eliminate duplication and get more mileage out of its public relations money," said IPAA.

•

Product price weakness during the summer cut into third-quarter earnings of many companies (page 41). Gulf Oil Corp., the latest of the big firms to report, had third quarter profits of $74,661,000, 15.8% under last year. For the first nine months, Gulf's net totaled $216,475,000 up 5.9%.

•

AFL-CIO's internal feud over craft versus industrial unionism is about to flare up again. O. A. Knight, president of the Oil, Chemical & Atomic Workers Union, is going to challenge jurisdiction rulings by AFL-CIO President George Meany. His protest will be made at the Industrial Union Dept. convention Nov. 9. He feels that craft unions doing maintenance work in refineries will take OCAW jobs.

At Baton Rouge, another labor dispute is coming to a head. The National Labor Relations Board has called an election for Dec. 2 and 3 at Esso's huge refinery to determine a bargaining agent for some 3,300 workers. On the ballot will be the Teamsters, the AFL-CIO Metal Trades Council, the Independent Industrial Workers Assn., and OCAW. The independent union had been the bargaining agent.

Meanwhile, the strike at American Oil Co.'s Texas City (Tex.) refinery made history. At midweek, it set a record as the longest strike against an oil refinery by OCAW. On Wednesday, it hit 119 days. In 1950, Texaco's Port Arthur (Tex.) refinery had a 118-day strike.

•

West Germany's controversial $7.14-a-ton sales tax on fuel oil will go before the Bundestag next week, despite a defeat in the Upper House. If it's finally passed, proceeds will be used to pay unemployment benefits to coal miners. A suggested compromise—not yet considered—would exempt light fuel oils.

•

Standard Oil of Texas completed the first commercial oil well in the Outer Continental Shelf off the Texas Coast this week. The well is the No. 2 Federal block 52, in the High Siland area, about 36 mi. northeast of Galveston. The company reported a test flow of 228 b/d of 37-gravity oil through 10/64-in. choke and perforations in the lower Miocene at 8,520-26 ft.

A $3 billion organization with 285 branches covering the oil provinces alone, Canada's First Bank is uniquely equipped to assist your Canadian oil or gas operation.

"A Guide for Oil & Gas Operators in Canada", 40-page handbook published by the B of M is yours for the asking. Write on your business letterhead to John A. Baines, Mgr., Oil & Gas Dept., 140 Eighth Ave. West, Calgary, Alta., Canada—or our nearest U. S. office.

NO STOCK RECOMMENDATIONS

While the Bank is prepared to provide all available information on the oil industry, it does not make recommendations regarding the purchase of individual oil stocks.

"MY BANK" TO 2 MILLION CANADIANS
B of M

BANK OF MONTREAL

Canada's First Bank Coast-to-Coast

BRANCHES IN ALL TEN PROVINCES

District Headquarters:
Halifax, Toronto, Winnipeg, Calgary, Vancouver

NEW YORK: 64 Wall St. • SAN FRANCISCO: 333 California St.

CHICAGO: Special Representative's Office, Board of Trade Bldg., 141 West Jackson Blvd.

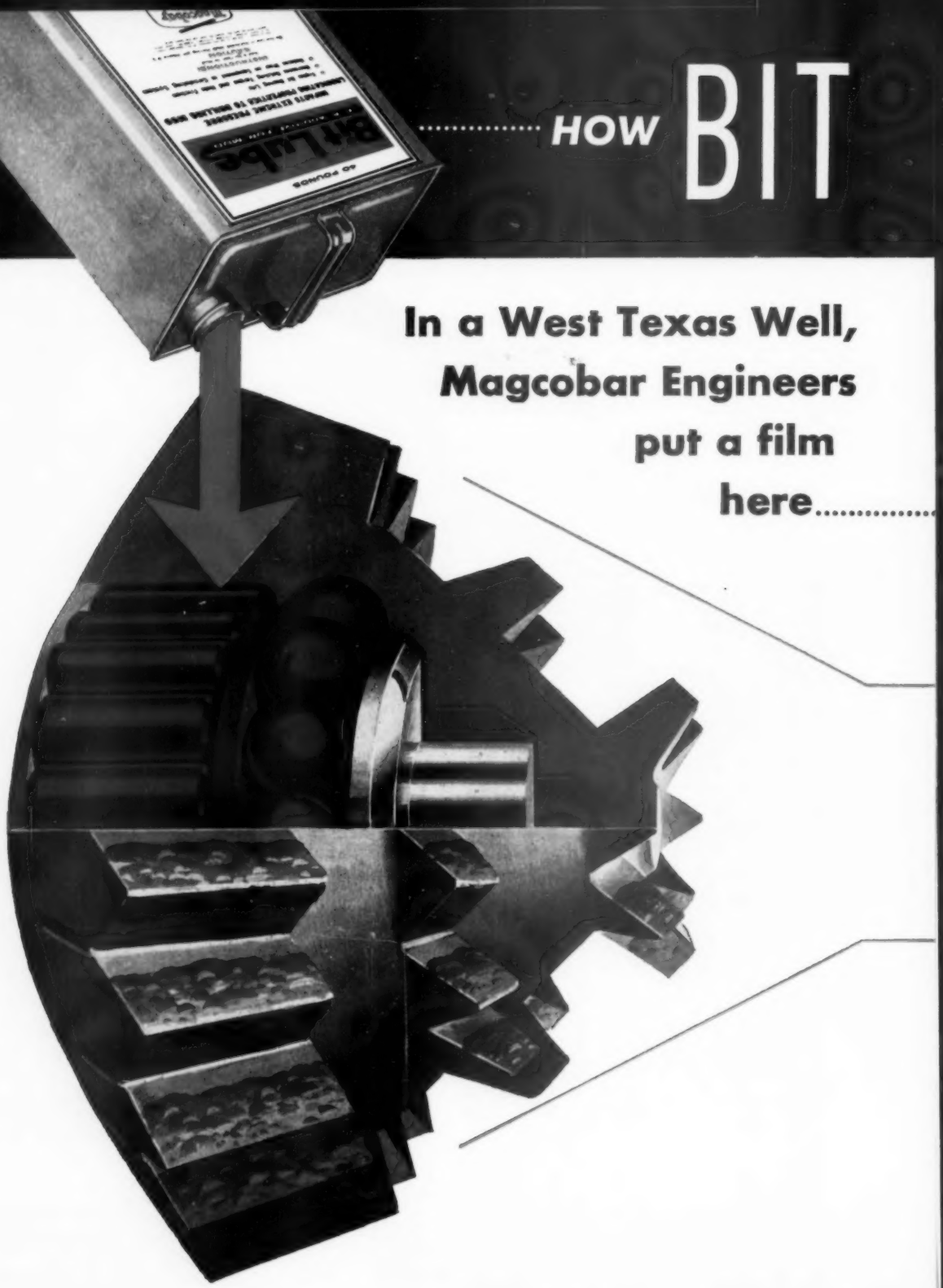
Head Office: Montreal

775 BRANCHES IN CANADA, UNITED STATES, GREAT BRITAIN AND EUROPE

RESOURCES EXCEED $3,000,000,000

HOW BIT

In a West Texas Well, Magcobar Engineers put a film here.....



Another Well Done *with*

LUBE AND MAGCOBAR ENGINEERING CUT DRILLING COSTS

You are always sure of getting every cost-cutting advantage with Magcobar. Here's why: The Magcobar Mud Engineer combines a thorough knowledge of drilling fluid chemistry with experience in your drilling area. This background—plus the top mud lab in the country—gives new dimension to the finest and most complete line of drilling mud products. What does this mean to you? The highest level of product performance to cut your drilling costs.

..... to make net savings of $4.87 per foot

Here's proof of actual savings using Bit Lube (E. P. Additive for Mud). The table below shows a drilling cost comparison in the Brownfield, Texas, area. The Bit Lube well was drilled for $4.87 per foot less than the offset well.

	NO. BITS	BIT SIZE	INTERVAL	ROTATING HOURS	WEIGHT ON BIT	RPM
BIT LUBE-WATER	28	7⅞"	4919-7272	185	70-90,000	60-80
WATER	40	7⅞"	4936-7270	379	45-60,000	55-60

Total savings in bits, trips, and drilling time was $13,420. Bit Lube and emulsifiers cost $1,940; a net saving of $11,480!

Bit Lube forms a tough protective film to reduce friction and to increase bit bearing life under extreme pressure conditions. It works best with high weight on the bit and fast rotary speed. Bit Lube and Magcobar engineering may be the answer to your bearing failures.

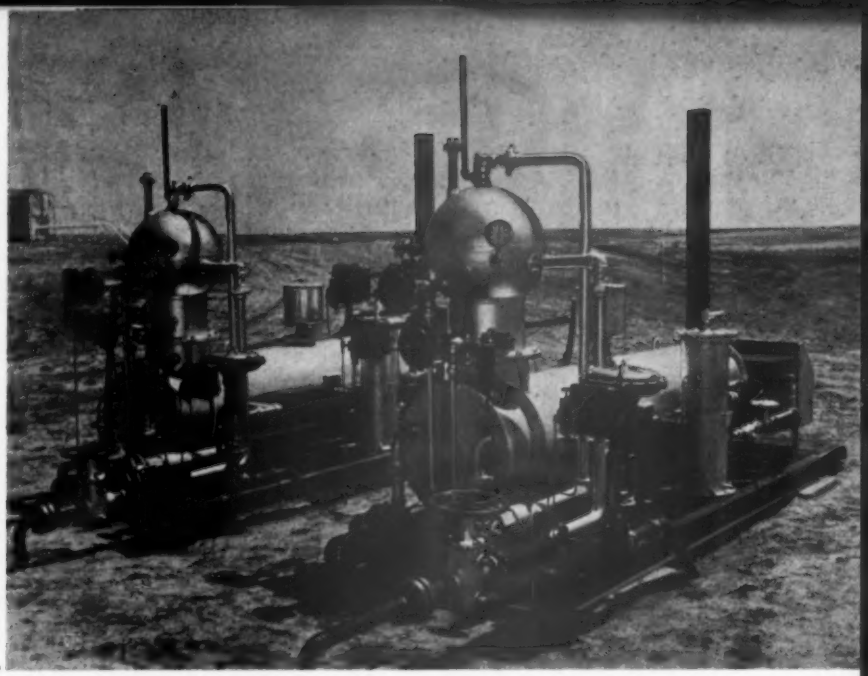
Bit Lube is only one of Magcobar's many answers to the problem of high drilling cost, a problem that demands the right answers. You'll find that the right products *used right* by Magcobar can cut costs on your next well, too.

Magcobar
Complete
DRILLING MUD SERVICE

MAGNET COVE BARIUM CORPORATION
HOUSTON, TEXAS

59-200

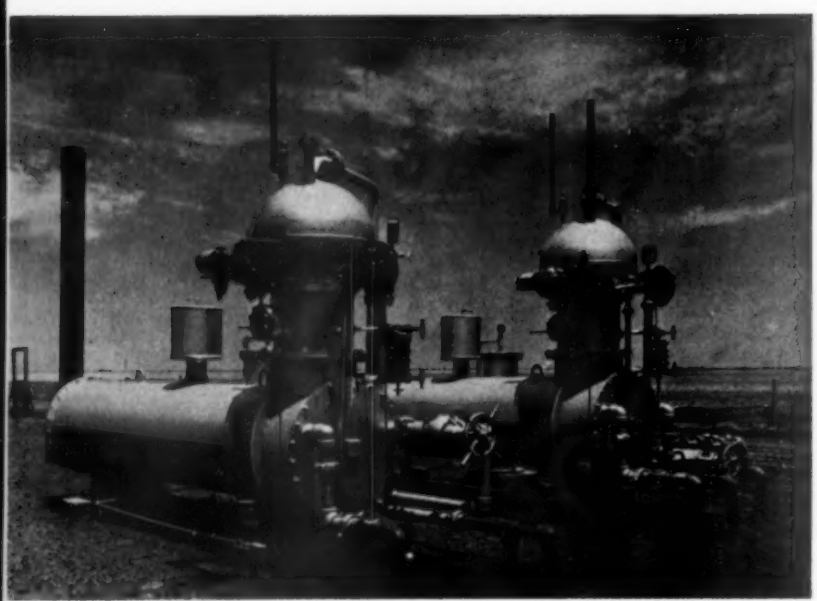
Magcobar Technology !



These two BS&B FREE-O-FREEZ Units are typical of many going into cold weather areas.

The Economy Package...

For Freedom From Freeze-Ups!



FREE-O-FREEZ by BS&B is a packaged Heater-Separator requiring minimum hookup and specifically designed for cold weather operation . . . gives dependable, trouble-free service . . . even in the dead of winter!

FREE-O-FREEZ is a neat, compact, integrated unit . . . combines the field-proved advantages of spherical separation and indirect heating to provide efficient water-oil separation and release of solution gas.

Prior to choking, the wellstream is heated in the heater flow coil to prevent freeze-up and hydrate formation. The water-oil separator section of the spherical separator is immersed in the water bath of the heater where it absorbs heat to prevent freeze-up. Flash arrestors are provided for safety.

FREE-O-FREEZ is available in a wide range of heater sizes, coil ratings and spherical separator sizes . . . and with a large selection of heater and separator accessories . . . to satisfy a variety of lease conditions. Simple, rugged and accurate controls are used.

A call to your BS&B Man will bring you detailed information on the unit best suited to your requirements. Or, you may write to . . .

BS&B

ANOTHER EXAMPLE OF PRODUCT LEADERSHIP

BLACK, SIVALLS & BRYSON, INC.

DEPT. I-EU10B. P. O. BOX 1714, OKLAHOMA CITY

Producers Are Optimistic on 1960

- **Total demand is expected to top 10-million b/d for the first time, with domestic production of crude and gas liquids rising by 6.8% to average 8,439,000 b/d.**
- **But the outlook is clouded by the probability that a satisfactory gas bill won't pass in an election year and by the possibility of a fight on percentage depletion.**

A group of petroleum economists predicted this week that general business conditions will continue upward in 1960, boosting total demand for oil to a new peak of 10,045,000 b/d.

That is the forecast of the 12-member Supply & Demand Committee of the Independent Petroleum Assn. of America, headed by Serge B. Jurenev, assistant to the president and chief economist of Continental Oil Co.

The report, made at the IPAA annual meeting in Dallas this week, is based primarily on the committee's expectation that:

Gross national product, reflecting the dollar value of the nation's output of goods and services, will rise 6% over 1959, and will be matched by a similar gain in the Federal Reserve Board's index of physical output.

The gross national product, the committee estimates, will average $482-billion in 1959, and will rise to $512-billion for the full year 1960.

The Federal Reserve Board's index is expected to reach 150% of the 1947-49 average for 1959, and rise by 6% to average 159 for 1960. That would compare with an expected 11.4% gain for the index in 1959 over 1958.

"The duration of the steel strike," the committee notes, "will affect the pace of business activity during the next year, and quarterly variations may balance out during the course of the full year."

The 3.3% gain in total oil demand expected for 1960 will reflect a 3.4% increase in domestic demand and a 2% drop in exports (table, page 12).

The committee estimates that domestic demand for all of 1960 would average 9,802,000 b/d, compared to a partially estimated demand of 9,479,000 b/d in 1959. It forecasts an export demand of 243,000 b/d next year, down from an estimated 248,000 b/d this year.

The rate of increase for domestic demand next year is believed by the economists to be "in line with the trend that is expected to prevail over the next several years."

The percentage gains will be somewhat below the rate of the early postwar period, the committee notes, but the volume gains will be as large as in the past.

Between 1950 and 1958, the average annual rate of gain in domestic demand was 4.2%, or an average increase of 320,000 b/d. The anticipated 3.4% gain in demand during 1960 amounts to a gain in volume of 323,000 b/d.

The most optimistic note in the group's forecast is the prediction that domestic production of all liquid hydrocarbons will rise 6.8%, to an average of 8,439,000 b/d.

This substantial increase follows the gain of 5.3% now expected for 1959, with output of crude and gas liquids estimated to average 7,905,000 b/d for the full year.

Details of the forecast show that crude production is expected to average 7,557,000 b/d in 1960, up 7.3% from the 1959 estimate of 7,046,000 b/d.

The peak crude output next year is expected in the fourth quarter, with the required rate then placed at an average of 7,616,000 b/d.

Output of natural gas liquids in 1960 is expected to be 882,000 b/d, up 2.7% from 1959.

In estimating the domestic output for 1960, the committee assumed that total imports under the mandatory program will average 1.6-million b/d for full year, the same as the level set for the second half of 1959.

After studying the economists' predictions of demand, Imports Administrator Matthew V. Carson, Jr., estimated that imports other than resi-

Alvin C. Hope Is Next IPAA Head

A San Antonio producer who started in the oil industry in 1929, the year the Independent Petroleum Assn. of America was formed, was elected president for 1960 this week.

The new top official, Alvin C. Hope, will succeed Gordon Simpson, president of General American Oil Co. of Texas, who served for two years.

L. Dan Jones, who has been associate general counsel, was named counsel, effective Jan. 1. He will replace Russell B. Brown, who retires as general counsel at the end of 1959 after 30 years with IPAA.

Reelected were Minor S. Jameson, Jr., executive vice-president; W. C. Kistler, Jr., treasurer; and I. C. Huff, Jr., executive manager and secretary.

dual fuel oil into the area east of the Rockies next year could be expected to rise by about 45,000 b/d.

His prediction was based on the indication that the government will continue to limit imports of crude, unfinished oils, and light finished products to 9% of domestic demand in Districts I-IV.

Any "big changes" in permissible imports, Carson commented, probably would be on the West Coast, because a continuous increase in West Coast imports will be required in the face of steadily rising population and decreasing production in that area.

Carson noted, though, that construction of pipelines to the West Coast could reduce the area's requirements for foreign oil.

Carson added that he "would be very much surprised" if a basic change to a country-of-origin concept was made in the import allocations.

In their optimistic outlook for the coming year, the economists made no predictions as to what effect a possible hike in steel prices would have on domestic producers.

The only comment on costs came from IPAA's Cost Study Committee, which reported that producers' costs have jumped 74.3% in the past ten years (page 13).

The producers were warned, though, that they face serious problems in 1960 in Congress on natural gas legislation and on percentage depletion.

Rep. Bruce Alger (R., Tex.) noted that while the Administration and some congressional leaders from the Southwest favor an attempt to pass a "workable" gas bill, the situation is that:

"In an election year, nobody in the Administration, nor in Congress either, is going to step on the toes, or in anyway appear to step on the toes, of any hard-pressed customers."

He said that despite the favorable nod from the Administration, it would "avail the industry nothing unless a very considerable number of consumers can be told the simple truth—can be told, and convinced, that their best hope for price protection . . . lies in free competition between suppliers, rather than bureaucratic regulation."

Alger predicted that domestic producers were headed for real trouble on percentage depletion in Congress:

"More and more members of Congress . . . with little knowledge of the depletion law or the economics of mineral production, are tending to view a reduction in depletion as one means of financing their pet welfare and public-works schemes, without having to tax their own constituents at home."

Alvin C. Hope, the newly elected president of the Independent Petroleum Assn. of America, told the producers that "getting corrective gas legislation is our No. 1 job."

But the Association's Natural Gas Committee failed to suggest any positive approach to new legislation.

The group, headed by Richard T. Lyons, of Houston, directed a special subcommittee to report its suggestions to the full committee "as early as possible."

Talk among producers at the IPAA meeting indicated that efforts will be made to insure the cooperation and coordination of all segments of the industry on specific legislation before any proposal is suggested to Congress or the Administration.

There was no indication, however, that any decision had been reached on whether to seek remedial legislation in 1960.

U.S. Supply-Demand Forecast

(Thousands of b/d)

	1st Q 1960	2nd Q 1960	3rd Q 1960	4th Q 1960	Year 1960	Year 1959	% Change '60-'59
DOMESTIC DEMAND							
Gasoline	3,822	4,395	4,438	4,142	4,200	4,073	+ 3.1%
Kerosine	468	172	206	416	315	313	+ 0.6
Distillate	2,708	1,392	1,251	2,292	1,911	1,837	+ 4.0
Residual	1,800	1,353	1,224	1,626	1,500	1,537	— 2.4
Other	1,736	1,830	2,032	1,906	1,876	1,719	+ 9.1
Total	10,534	9,142	9,151	10,382	9,802	9,479	+ 3.4
EXPORTS							
Gasoline	52	61	65	62	60	62	— 4.8
Kerosine	2	2	2	2	2	2	——
Distillate	42	41	45	44	43	37	+16.2
Residual	73	66	67	64	68	76	—10.5
Other	68	72	72	71	70	71	— 1.4
Total	237	242	251	243	243	248	— 2.0
TOTAL DEMAND	10,771	9,384	9,402	10,625	10,045	9,727	+ 3.3
Stock Change	— 550	+ 484	+ 478	— 434	— 5	— 47	—
New supply	10,221	9,868	9,880	10,191	10,040	9,680	+ 3.7
Runs to Stills	8,381	8,227	8,377	8,452	8,360	8,006	+ 4.4

Oil Group Hits Cut-Rate Coal

Coal freight rate reductions to big East Coast electric utilities came under attack this week from residual oil suppliers.

They said the cuts would unfairly force down the price of residual.

The charges came in the windup of an Interstate Commerce Commission hearing (PW—Oct.23'59,p12).

The Empire State Petroleum Assn. laid out its case against the freight rate and mine price cuts totaling 75¢ a ton on shipments of over 3-million tons delivered between Apr. 1, 1959 and Mar. 31, 1960.

The rates are already in effect. The question is whether to make them permanent.

The provision that reductions will apply only to utilities buying more than 5½-million tons in the period is likely to be the key issue.

The rate cuts were needed, coal-utility-rail witnesses said, because of "dumping" of foreign residual oil surpluses, in some cases below quoted prices.

Attacking the new rates, Harry B. Hilts, executive secretary of ESPA, an association of some 275 oil suppliers, referred to testimony showing that 40-million bbl. of residual oil would be needed to supplant 9.4-million tons of soft coal in the Atlantic seaboard market.

Hilts sought to refute coal's claims of a deliberate effort to drive it from a market it now holds. He said it was "absurd to consider" that this quantity of residual oil could be obtained from either domestic or foreign sources.

Hilts remarked that domestic refiners are trying to cut the amount of residual produced from the present 10%, and predicted an eventual yield of only 3% to 4%, nationwide.

If the industry tried to supply the extra 40-million bbl., Hilts said, the market would be flooded with 360-million bbl. of high-grade products that would make fair prices impossible.

Drilling and Completion Costs Soar

Drilling and completion costs, on an adjusted basis, have risen 74.3% over the past ten years, according to the Cost Study Committee of the Independent Petroleum Assn. of America. Even this is a conservative estimate, the IPPA annual meeting was told by the group headed by John E. Hodges, of Houston.

"To the extent that the [average] 1958 well found or developed less oil or gas than the 1947-49 well, the increase in the actual economic cost of drilling would be understated," the report said.

"It takes many years," the committee explained, "to determine the actual magnitude of exploratory discoveries in a given year."

The committee arrived at its 74.3% figure by extending its price indexes for individual items, and adjusting them to reflect improved drilling technology and increasing depth.

This special computation showed that the adjusted index of drilling and completion costs leaped from 139.1% (of the 1947-49 average) in 1952 to 174.3% in 1958, despite the fact that average well depths remained relatively stable at slightly more than 4,000 ft.

The index of direct operator costs skyrocketed to 212.2, compared to 1952's 148.5. But a decline in the drilling contract rate index, from 121.0 in 1952 to 93.1 in 1958, weighted the adjusted picture.

IPAA: Labor, Casing Lead the Way

(1947-1949=100)

Year	Labor	Casing	Specl. Contract Services	Rock Bits	Drilling Equipment	Mud	Composite Index
1947-49	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950	110.7	116.1	102.9	106.4	108.7	100.9	109.4
1952	127.2	125.1	108.7	116.5	120.1	104.7	119.9
1954	138.3	144.1	112.3	127.1	129.5	121.8	131.9
1956	151.5	161.7	114.6	139.8	143.4	146.9	144.9
1957	159.1	179.5	120.3	147.2	153.3	146.9	154.5
1958	163.9	187.1	123.8	141.7	154.1	132.8	157.2
1959*	170.8	190.7	124.0	133.8	154.1	132.8	159.6

*June

Labor, casing, and equipment costs reflected the principal increases in the price indexes.

Labor costs were up 7% in the first six months of this year, and 70% over the ten-year span. Casing showed a 90.7% increase for the ten years. Equipment costs were up more moderately, 54.1%. Rock bits and drilling mud have declined somewhat from their 1957 peaks.

The composite index rose steadily, however, hitting a peak of 159.6% (of the 1947-49 average) in June of this year.

The committee conceded that it is exceptionally difficult to assess the effects of technological advances and their impact on costs.

"Tubingless completions, slim-hole drilling, increased penetration rates, etc., tend to reduce average well costs," the report said.

"Multiple completions, while enabling the operator to drill fewer wells than otherwise would be drilled, tend to increase average costs.

"Some technical developments, such as air drilling, heavier rigs, improved mud and bits, have made it practical to drill very deep wells and offshore wells. These are typically high-cost wells that have been made possible only by improved technology."

The committee expressed hope that future studies would be enlarged in scope. The report said the members are continuing their discussions with government agencies and others to broaden the base and lead to the collection of better statistical information on costs.

The proposed annual survey of mineral industries by the government was cited as one possible source.

The committee recommended that IPAA delay its own plans for collecting and analyzing statistics until the government's plans are crystalized.

Oil Man's Album

East Texas: Monument to Oil Conservation

Twenty-nine years ago this month, the Daisy Bradford No. 3 came in "with a roar" as the discovery well for the East Texas field, still the largest in the U. S. For 70-year old C. M. (Dad) Joiner, it marked the end of three years of dogged determination in face of near financial ruin. But for the industry, it marked the start of events that led to effective conservation laws. Joiner (center) is being congratulated by A. D. Lloyd, a geologist.

(No. 36 in a Petroleum Week series.)

Boxscore of Oil's 1959 Earnings to Date

(in thousands of dollars)

Company	3rd Quarter Net Income	% Change 1959-1958	9 Months Net Income	% Change 1959-1958
Anderson-Prichard	$1,823	+32.1%	$4,867	+76.6%
Atlantic Refining	7,575	—34.2	23,975	+25.0
Continental	16,200	+22.7	45,300	+34.0%
Jersey Standard	162,000	+11.0	477,000	+20.8
Phillips	24,177	+14.1	77,386	+34.3
Shell	34,868	— 0.8	104,055	+16.9
Socony	45,900	— 1.1	123,000	+12.4
Sun	10,176	— 8.0	32,501	+42.1
Sunray	10,847	+22.8	30,783	+ 9.6%
Texaco	96,892	+ 8.7	261,854	+14.7%

Cost Reductions Push Profits Up

Oil company profits for the first nine months of 1959 are running well ahead of last year. But third quarter earnings were not up as much as in the first half.

Texaco's consolidated net income for the first nine months of this year was the highest in the company's history—$261,854,030, or $4.41 a share. This was a 14.7% hike over the first nine months of 1958. Texaco's third-quarter profits were also at record levels, but were up only 8.7% over the same period last year.

Continental Oil reported a record nine-month net income of $45.3-million, up 34%. The company's third quarter earnings, though also at a new high of $16.2-million, were up only 22.7%.

Atlantic Refining reported that nine-month net income ran 25% ahead of last year. But its third-quarter income this year, at $7.6-million, represented a 34.2% drop from the third quarter of 1958.

Socony Mobil's nine-month net income of $123-million was up 12.4% over last year. But third quarter income dropped 1.1% below the like period of 1958.

Shell Oil experienced a 16.9% boost in its nine-month earnings over 1959, but its third-quarter profits slipped 0.8% under the same period of 1958.

The third-quarter earnings pattern reflected (1) low product prices and (2) comparison with an upturn in profits in 1958.

Anderson-Prichard Oil Corp., with nine-month net income up 76.6% and third-quarter income up 32.1% reported to stockholders: "It was pointed out in the company's report of earnings for the second quarter of the year that product prices had begun to soften. Further weaknesses were evidenced in prices of refined products during the third quarter as crude runs to stills continued to be excessive."

Atlantic Refining's president, Henderson Supplee, Jr., in reporting the company's earnings, said "Although the impact of the steel strike was naturally felt during the third quarter, particularly with respect to heavy fuels, the increased demand for most other products was encouraging.

"Unfortunately, the excessive inventories that had been built up by the industry during the second quarter carried over into the third period, resulting in continued price weaknesses."

In 1958, third-quarter profits of most companies turned up, after a relatively poor first half. The improvement after mid-1958 was due to a generally higher level of industrial activity in the U.S., an increase in domestic crude production after a long period of tight allowables to correct oversupply, and an upturn in prices of most refined products.

During most of 1959, oil company earnings have reflected the benefits of cost-reduction measures that were instituted late last year.

Augustus C. Long, Texaco's chairman, in his report to stockholders, said, "Strict control of expenses and continuing emphasis on increased efficiency in all of [the company's] operations contributed materially to the increased earnings."

He attributed the improvement primarily to domestic operations. The company's U. S. crude output, domestic refinery runs, and sales were at the highest rate for any nine-month period in its history.

Standard Oil Co. (N. J.), which reported nine-month profits of $477-million, up 20.5%, attributed the higher income to "gains in sales volume, as well as more efficient use of facilities in handling the higher operating levels."

But the company noted that "continuance of these improved results into the fourth quarter will have to be measured against the rising trend that began in mid-1958."

Jersey's sales volume reached a new peak for a nine-month period.

Oil Chemical Rattles Rattlers

A boon for campers, pipeline gangs, and field exploration crews is in the making in an oil company experiment—a "skunk juice" repellent that'll keep rattlesnakes at a safe distance.

The repellent utilizes thio-alcohol n-butyl mercaptan, a petroleum chemical that simulates the odor of skunks, which are natural-born enemies of the deadly rattlers.

The aroma is not strong enough to affect the human sense of smell, thus, there are no unpleasant odors associated with its use.

Closely controlled laboratory tests indicate that the synthetic skunk musk frightens the snakes.

For instance, electrocardiograph recordings show that their hearts pump faster than normal at their first whiff of the chemical compound.

Much development work is yet to be done, however, before it can be produced commercially, and placed on the open market.

Richfield Oil Corp., whose grant made the research possible, emphasized that point in commenting on the project.

Richfield agreed that preliminary results have been encouraging, but stressed that experiments so far have been confined strictly to the laboratory.

The work is being carried out at the University of California at Los Angeles under the direction of Dr. Raymond B. Cowles, zoology professor.

His research so far suggests that bits of charcoal could be soaked in the mercaptan and scattered around campsites, dwellings, and other places where rattlers are a menace or a hazard.

He believes that field tests would prove it to be an effective and inexpensive repellent.

Oh yes—Cowles says the repellent would work wonders on rodents, too.

Steel Shoe Pinches—But Not Too Much

- **Some drilling has been curtailed, but swaps and other deals are easing local problems; prices are normal.**
- **Some companies estimate that their inventories can hold out for another 30 to 90 days.**

Pinches are being felt, some drilling programs are suffering, and swaps are commonplace. But for the most part, oil still hasn't been hit as hard as other industries by the steel strike.

That's the way the picture looks this week, on the basis of a series of spot checks with oil companies, independent producers, drilling contractors, and supply houses.

There's an air of concern, but it's tempered with cautious optimism. Inventories are holding up better than most companies had anticipated. Some firms say they can "get by" for another 30 to 90 days.

The pinch is tightest, at the moment, in alloy steel for deep drilling, some sizes of pipe and specialty items.

Among the items in short supply are 7⅝-in. casing, 2-in., 2¼-in., and 2½-in. tubing, pipe which requires special threading, and N-80 and P-110 pipe.

Swaps, purchases, and special deals are relieving many potentially difficult situations.

One supply house spokesman says humorously, "We've become a trader's exchange. We're not making any money, but we are helping a lot of people get together on supply problems."

Says another, "Our field men report there's one helluva lot of swapping going on. It's being done mostly by individuals, and we're helping where we can by relaying information about inventories and available materials."

Supply houses are reaching the bottom of the barrel, and from now on in the pickings are going to be slim.

They were loaded to the roof at the beginning of the strike last July, but now they're down to the point where stocks are all but gone.

"It's mostly a question of dogs and cats," says one supplier. He, like others, has some drill pipe, casing, tubing, and other items in stock, but these are odd sizes, or items for which there is little or no demand.

Another comments: "Right now we have 5,000 tons of pipe on hand. However, most of this is 10¾-in. surface casing. We are extremely short on drill pipe and tubing, but we feel we'll be able to take care of our customers' needs for a little while longer."

Still another says that the strike is "really beginning to hurt."

"When the strike started," a spokesman reports, "we had the largest inventory on hand we've ever had. Right now we're low on several items. Our big problem at the moment is to maintain some kind of a balanced inventory.

"We think we'll be able to supply steel for all oil industry jobs, but it's going to be difficult without making some changes in specifications."

Curtailed drilling programs and stretchouts have been helpful in easing the steel situation.

Some companies say they have trimmed their drilling schedules moderately; others are going ahead, although they concede that their programs weren't too heavy in the first place.

There is some question, however, whether it is the steel shortage, or tight money, or other factors, that have brought about some of the slackened drilling operations.

Says one supply house representative, "You can bet that tight money, rather than steel, caused some of them to change their minds."

Prices for oil country steel are still normal, despite the shortages and problems.

Independents and others involved in swaps and purchases say there have been no grey or black market prices yet. Some foreign steel is coming in, and is running about $15 to $25 higher than domestic prices. But this was not unexpected.

Rocky Mountain sources say a lot of Canadian pipe is coming in there, which has helped the situation considerably.

This steel is coming from a comparatively new mill in western Canada, and apparently represents its first penetration of the American market.

Typical oil field comments are these:

- "Originally we thought our inventories of steel would last only to the middle of October. However, our drilling activity has been reduced to the point where we have only 10 rigs active now—instead of 15 to 30, as normal."
- "We have been swapping and buying pipe. We sold some that we didn't need. At the same time we picked up two strings of 7⅝-in. pipe."
- "We are being hurt on some specialty items, but it appears that our company will be able to go another month without a boost in inventories. After that, we are going to be hurt bad. One reason we've been able to go as long as we have is because our drilling program has dropped off some 25%. The reduction, however, is not due to the strike, but because we've caught up on our program."
- "We conducted a re-evaluation of our steel inventories during October and found that we could complete our 1959 program with what we had on hand."
- "It looks like a slow down is under way regarding receipts of steel from supply houses. However, with swaps and some foreign steel we can get by for another six weeks."

When the steel mills begin to boom again, customer relations are going to be a big problem for suppliers.

"We can start turning out some stuff quickly," says one manufacturer, "but it'll take weeks before we can really gear up."

NEXT WEEK in Petroleum Week

Just how significant is the new emphasis oil management is placing on marketing?

Says a major company sales manager in the Southwest: "Marketing is going to be the salvation of the industry. Our production, refining, and transportation men used to ignore me. Now they call me frequently to find out how sales are doing."

The reason for the shift in thinking is the worldwide surplus of oil and the resulting scramble for assured outlets.

Next week a 15-page special report will tell what 44 key oil men in all segments think about what one industry veteran calls today's "Marketing Revolution."

CONCEN-
TRATION

Concentration on the needs and requirements of the oil producer — careful, expert attention to the demands of modern production financing — these are reasons why Republic is a leading oil bank of the South — with the South's largest Oil Department. How may we serve you?

REPUBLIC
NATIONAL
BANK
OF DALLAS

CAPITAL AND SURPLUS
$100,000,000
LARGEST
IN THE SOUTH

MEMBER
F.D.I.C.

What's New / IN THE INDUSTRY

The State of Texas has filed a supplemental brief with the U. S. Supreme Court in the submerged lands dispute. It consists of additional historical research designed to bolster Texas' claim that it held ownership to a three-league boundary into the Gulf of Mexico when it was admitted to the Union. The court recently heard oral arguments in the dispute between federal and state authorities, and now has the case under advisement.

•

Union attorneys say they will appeal the contempt convictions of 13 members of the Oil, Chemical & Atomic Workers Union. The men, affiliated with Local 5-672, were found guilty of charges that they violated a temporary injunction issued in the strike at the Sugar Creek (Mo.) refinery of Standard Oil Co. (Ind.). Jail terms of 30 days to six months were imposed.

•

The United Arab Republic plans to form a national oil company including private capital to develop Syria's Karatchok field. The field, in northeastern Syria close to the Turkish-Iraqi border, was discovered by the Menhall-Atlantic group. Its exploration permits were canceled last year, and the field was taken over by the government.

•

Texas will have to broaden its economic base to maintain its growth and prosperity, according to Morgan J. Davis, president of Humble Oil & Refining Co. He noted that over the past decade, Texas' crude output has declined from 45% of the U. S. total to 38%, and that on a global basis the decline has been from 27% to 14%. Oil and gas will continue to play important roles, he said, but the economic base must be broadened, possibly in the field of manufacturing.

•

New field discoveries are lagging in Louisiana. The state Dept. of Conservation reported that, as of Sept. 30, only 36 new fields had been discovered this year, compared with a 1958 total of 58. The department officially set the November and December crude allowables at 936,575 b/d. This is an increase of 4,561 b/d over October.

•

Kansas' crude allowable for November will be 320,000 b/d, the same as in October. That was the figure recommended by the Kansas Corporation Commission's conservation director. Crude purchasers bid for 302,996 b/d in November, up 2,580 b/d over their October estimates.

•

A special sale of oil and gas leases will be held at Santa Fe, N. M., on Nov. 17. The New Mexico Land Commission says the sale will involve 48 tracts in Catron, Chaves, De Baca, Dona Ana, Guadalupe, Harding, Hidalgo, Lincoln, Luna, McKinley, Otero, Roosevelt, Sandoval, San Meguel, Sierra, Socorro, Torrance and Valencia counties.

•

New president of the National Stripper Well Assn. is W. M. Shoemaker, of Forest Oil Corp., Bradford, Pa. Other new officers are Jack R. Lavens, Jr., of Oilfield Research, Evansville, Ind., and Morris Seydel, of Seydel Engineering Co., Wichita Falls, Tex., both vice-presidents.

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau
October 30, 1959

Watch for a shift in government handling of big labor disputes. The deadlock in steel is bringing about a new tone in Washington thinking. From the President on down, the conviction is growing that more direct government intervention is needed to protect the public. Ideas on how to do this vary. But all are based on dissatisfaction with the Taft-Hartley Act as the means of stepping into major disputes.

•

The odds now favor serious congressional consideration of the labor issue next year. This takes into account the usual reluctance of Congress to deal with hot potatoes in an election year. However, astute observers of the labor-management scene say the die is cast for some action to expand the government's role in the negotiating process.

•

Here are the major proposals already being talked up:

• **Make a presidential fact-finding board a regular part of the mediation process.** This proposal, from Labor Secretary James P. Mitchell, would put boards into negotiations well before an emergency, and would include public hearings.

• **Invoke compulsory arbitration if a strike resumes at the end of an 80-day injunction.** Put forward by Sen. John Sherman Cooper (R., Ky.), this aims at pressuring both parties to settle.

• **Permit voluntary arbitration as an extra Taft-Hartley step.** This appeals to Dr. George Taylor (chairman of the steel fact-finding board) and other professional arbitrators as a way of bringing public pressure to bear on both sides.

• **Set up a national board and have both labor and management account publicly for their moves on wages and prices.** This is an extension of a proposal by Sen. Joseph C. O'Mahoney (D., Wyo.) to require big companies to justify price increases at public hearings.

• **Apply the antitrust laws to unions.** A perennial, this suggestion has least chance of all in Congress.

•

Washington assesses Lyndon Johnson's chances for the 1960 Democratic Presidential nomination like this: As the convention opens, he will have Texas' 61 votes, with maybe a smattering of help from southern and mountain states. His chance will be best if the convention deadlocks, and a back-room power struggle develops. Most party pros give him only an outside chance. One often-cited reason: The North and Northeast, the so-called "consumer" states for oil and gas, would balk at a candidate from a "producer" state.

•

Selection of a southwestern location for a plant to desalt brackish water will be made soon. The process selection board, working for the Interior Dept's office of saline water, will meet Nov. 4-5 to choose a site. Ten cities are being considered for the Southwest plant: Wichita Falls, Stamford, Ballinger, Monahans, and Pecos, Tex.; Carlsbad, Roswell, Alamogordo, and Santa Rosa, N.M.; and Safford, Ariz.

California's first offshore production from a permanent drilling platform—Summerland No. 1 (left)—is now moving to newly completed shore facilities (right) by pipeline.

New Producing Era Begins

Platform drilling on offshore California leases is beginning to pay off. Evidence: Production is now moving by pipeline from one platform. Two more platforms are in the works.

Standard Oil Co. of California and Humble Oil & Refining Co. last week released plans for their second platform on their productive Summerland lease (PW—Oct.23'59,p35).

To cost "in the neighborhood of $3-million," the new platform will be located 1¾ mi. northwest of Summerland No. 1 platform, which is 2.2 mi. offshore from Summerland, Santa Barbara County.

The third platform, planned for Parcel D, Santa Barbara County, is now in the engineering stage. It will be built by Texaco Inc., operator.

On Summerland No. 1, Standard, as operator, has completed three wells, suspended one test, and currently is drilling two holes simultaneously. The first test was spudded on Sept. 20, 1958.

Standard Oil Co. of California and Humble Oil & Refining Co. have started to reap the benefits of their $12-million gamble on the Summerland lease.

The $12-million includes a bonus bid of $7,250,606 for the 5,500-acre lease, more than $2-million for the platform and additional money for seismic and corehole work.

Present production from the three completions on the platform amounts to about 1,000 b/d of oil and 1-million cf/d of gas.

The oil will be processed at Standard's El Segundo and Richmond (Calif.) refineries, where it will be taken by tanker.

The two companies have now completed onshore facilities for handling production from the Summerland lease. They cost nearly $2-million.

They include submarine lines from platform to shore, gas-oil separators and compressors on the shore site, automatic custody transfer equipment, a floating-roof, 217,500-bbl. tank (180 ft. in diameter and 48 ft. high), a submarine 20-in. loading line, and a pump to fill ships at the rate of 14,000 bbl. per hour.

The success at Summerland has focused attention on the five parcels that were leased in July, 1958. These are:

• Parcel A, where a third corehole now below 200 ft. is being drilled by Phillips Petroleum Co. and Edwin L. Pauley. This lease brought $13,550,000 from Phillips, Pauley, Kerr-McGee Oil Industries, Inc., et al.

The two other coreholes drilled by Phillips-Pauley were suspended at 7,355 ft. and 8,175 ft.

• Parcel B, where just one corehole, now abandoned, has been drilled.

Standard leased this parcel for $771,000. The corehole was abandoned at 6,670 ft. last February.

• Parcel C, where "encouraging shows of gas and condensate" have been found in a 7,748-ft. corehole drilled by Standard, operator for itself and Humble.

The hole was capped in November, 1958, in such a manner to permit reentry. A second hole, begun last August, 1 mi. west of the first hole, was drilled to 8,567 ft., logged, tested without disclosure of the results, and abandoned in August.

For this 3,840-acre lease, Standard and Humble paid $12,423,598.

• Parcel D, where oil shows have prompted the operator to initiate engineering work on a platform for developing the lease.

Texaco Inc. says it made two favorable formation tests in open hole in the first corehole on the lease—a 7,513-ft. hole drilled last winter.

The second corehole is reported to have flowed 1,393 b/d of 35-gravity oil. Drilling in this hole was suspended at 6,751 ft. in April.

Since then, three additional coreholes have been drilled to depths of 4,660 ft., 7,183 ft., and 7,447 ft.

This lease was awarded to Texaco, Monterey Oil Co., and Newmont Oil Co. for a bonus bid of $23,711,538.

• Parcel E, where five deep coreholes have been drilled and suspended and a sixth is now below 250 ft.

The suspended holes went to 5,010 ft., 6,300 ft., 5,010 ft., 6,845 ft., and 3,905 ft.

Phillips-Pauley-Kermac paid $5.1 million for this lease.

Development drilling, meanwhile, continues at a steady pace on Richfield Oil Corp.'s man-made island off Rincon, in Ventura County.

Richfield has completed 19 wells from the island, which has room for 68 wells.

Depths of the wells range from 1,800 ft. to 2,400 ft. The average initial production has been 60 b/d of 30-gravity oil. Time from spud-in to completion averages about 12 days.

The state will not offer any offshore leases in the immediate future

NOW...Hammond TUBESEALS*

Guaranteed for storage of HIGH AROMATICS

HERE'S GOOD NEWS FOR PRODUCERS AND HANDLERS OF HIGH AROMATIC CHEMICALS

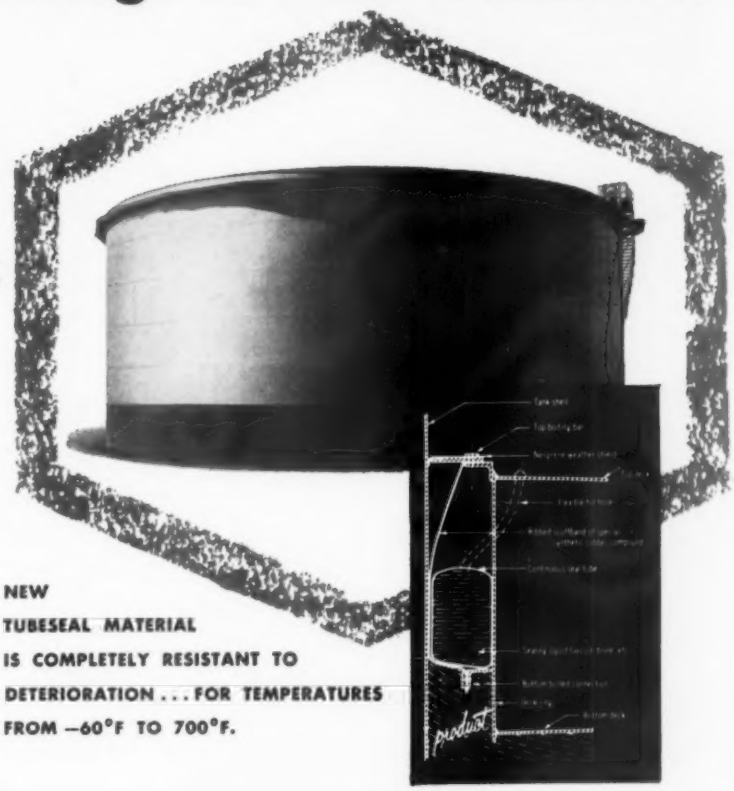
Elimination of evaporation losses and protection against product contamination of high aromatics in storage is now possible with the new Hammond Tubeseal System* for floating roof tanks. The new tubeseal material overcomes deterioration problems experienced with other sealing materials. Tubeseals are guaranteed for storing products containing 75% aromatics and special materials are available for 100% aromatics.

A Hammond Floating Roof Tank, with the new aromatic-resistant Tubeseal System, is the answer to liquid storage of high aromatics . . . and the Tubeseal Floating Roof can be installed on new or used tanks of riveted or welded construction.

ELIMINATE LIGHTNING FIRES:

The Hammond weathershield, a standard part of the Hammond Tubeseal System, is completely electro-conductive to eliminate the possibility of lightning fires.

Send us the details on your storage facilities and requirements. We will be glad to offer you the benefits of more than 50 years of liquid storage experience.



NEW TUBESEAL MATERIAL IS COMPLETELY RESISTANT TO DETERIORATION . . . FOR TEMPERATURES FROM —60°F TO 700°F.

INCLUDED AMONG THE AROMATICS AND OTHER CHEMICALS WHICH CAN NOW BE STORED IN HAMMOND TUBESEAL FLOATING ROOF TANKS ARE:

- ISOPROPYL ETHER
- ALLYL ALCOHOL
- ALLYL CHLORIDE
- HEXALENE GLYCOL
- ETHYL ALCOHOL
- ISOPROPYL ALCOHOL
- ETHYL GLYCOL
- BENZENE
- CREOSOTE OIL (CREOSOL)
- TOLUENE
- NAPHTHA and HYDROGEN SULFIDE
- TURPENTINE
- XYLENE
- BUTYL ALCOHOL
- SULPHURIC ACID 95%
- METHYLENE CHLORIDE
- TRICHLOROETHYLENE
- ETHYLENE DICHLORIDE
- BENZYL ALCOHOL
- AMYL ALCOHOL
- PROPANEDIOL

*Patented

HAMONDTANK

HAMMOND IRON WORKS

744 BROAD STREET, NEWARK 2, N. J.

Offices and Plants

WARREN, BRISTOL and PITTSBURGH, PA.
PROVO, UTAH • CASPER, WYO. • BIRMINGHAM, ALA.

—gambling that discoveries and development work on the five parcels will enliven the bidding if buffer leases are put on the block later.

Only one company, California Standard, has a coring permit for the unleased lands. It is in the Santa Barbara-Ventura area.

Pauley has asked the state for a coring permit, and Shell Oil Co. has made application for a geophysical permit.

The new Summerland platform will have facilities for drilling up to 24 holes—two at time if desired—in water up to 106 ft. deep.

Construction of the basic tower section is under way at Todd Shipyards Corp., in San Pedro, Calif.

It is scheduled to be floated to its site early next year, and company engineers estimate that the completed platform will be ready for operation by mid-year.

Design and method of erecting the new platform differs from that of Summerland No. 1.

No. 2 has a more versatile design —one that is applicable to deeper installation and lends itself to sites with relatively thick overburden.

No. 1 rests on solid shale in water 100 ft. deep, whereas No. 2 will be imbedded in soft overburden that lies 50 ft. thick over the shale.

No. 2's tower will be 148 ft. tall and will have four legs arranged in a rectangular pattern, 80 ft. by 75 ft. Two of the legs will be 16 ft. in diameter and compartmented for the full length to provide flotation.

The other two—"outrigger"—legs will be 4 ft. in diameter, with 14 ft. caissons at the bottoms.

Bouyancy of the larger legs will permit the tower to be floated to the drilling site, where it will be upended by controlled flooding of the lower compartments of the larger legs and the outrigger caissons.

No. 1, which has four legs mounted on caissons in a square pattern, was floated to its site upright and was positioned by a 250-ton derrick barge.

After being up-ended, No. 2 will be leveled by applying weight to the various columns. Box girders supporting the main deck will be flooded for this purpose.

Forty tubular-steel piles will be driven through sleeves in the large-diameter legs and in the outrigger caissons to secure the tower to the bottom.

The pilings in the larger legs also will serve as channels for wells.

Waterflood Proration for New Mexico?

New Mexico's pending decision on a rule change calling for proration of waterflood production is expected to have significant impact on future production.

New Mexico's Oil Conservation Commission is now studying written statements of position submitted by various oil companies, following testimony presented at a three-day hearing.

A commission spokesman says no decision will come before Nov. 1, and adds: "I can't say how long after that it will take to come up with the new rules." The commission's next regular meeting is Nov. 18.

The commission's proposed change of Rule 701 would set a "project allowable" for new waterfloods and other secondary recovery projects. There are no restrictions on waterflood production in current rules.

Operators presently must obtain a permit before setting up a pilot waterflood. If they can then prove a response in recovery, they can expand operations, with no limits on production.

Dan S. Nutter, the commission's chief engineer, explains that, under the proposed rule change, a maximum allowable of 42 b/d would be assigned to waterflood wells in the southwest part of the state, and 52 b/d in the northwest sector.

The area of a waterflood project unit under the proposed rule would consist of the 40-acre tracts upon which injection wells are located, plus all 40-acre tracts which directly or diagonally offset the injection tracts and on which producing wells have been completed.

The maximum allowable assigned to any waterflood project area would be determined by multiplying the number of 40-acre tracts in the project area by the area allowable factor by the 40-acre proportional factor for the pool.

Hearings or administrative processes would be required for new recovery projects.

The change would not apply to projects already approved.

Proponents of the rule change contend that waterflood wells are getting more than their fair share of the market.

The commission has granted waterflood permits in 12 pools to date, all with stripper-type wells.

Nutter testified at the hearing that allowables on primary production had been reduced because of excess waterflood oil production. He said the latter was 7,000 b/d over top unit allowables in July.

Nutter also contended that waterflood production rates could be increased by increasing the injection rate. This was in reply to opposition statements that when a field is totally under waterflood, oil producing rates for the pool as a whole seldom go above the field's highest primary producing rate.

Operators favoring capacity waterflood production say that the rule change would lower injection rates, thereby reducing ultimate recovery and causing waste. They also say that small operators would be unable to protect correlative rights.

John Buckwalter, a consulting engineer, testified that "any manner of curtailment of producing wells will result in a decrease in ultimate recovery of oil. Unless you produce at capacity, waste will result."

He also stated that waterflood oil in excess of normal unit allowable amounted to 4,500 b/d for the state, and not 7,000 b/d, as reported by Nutter.

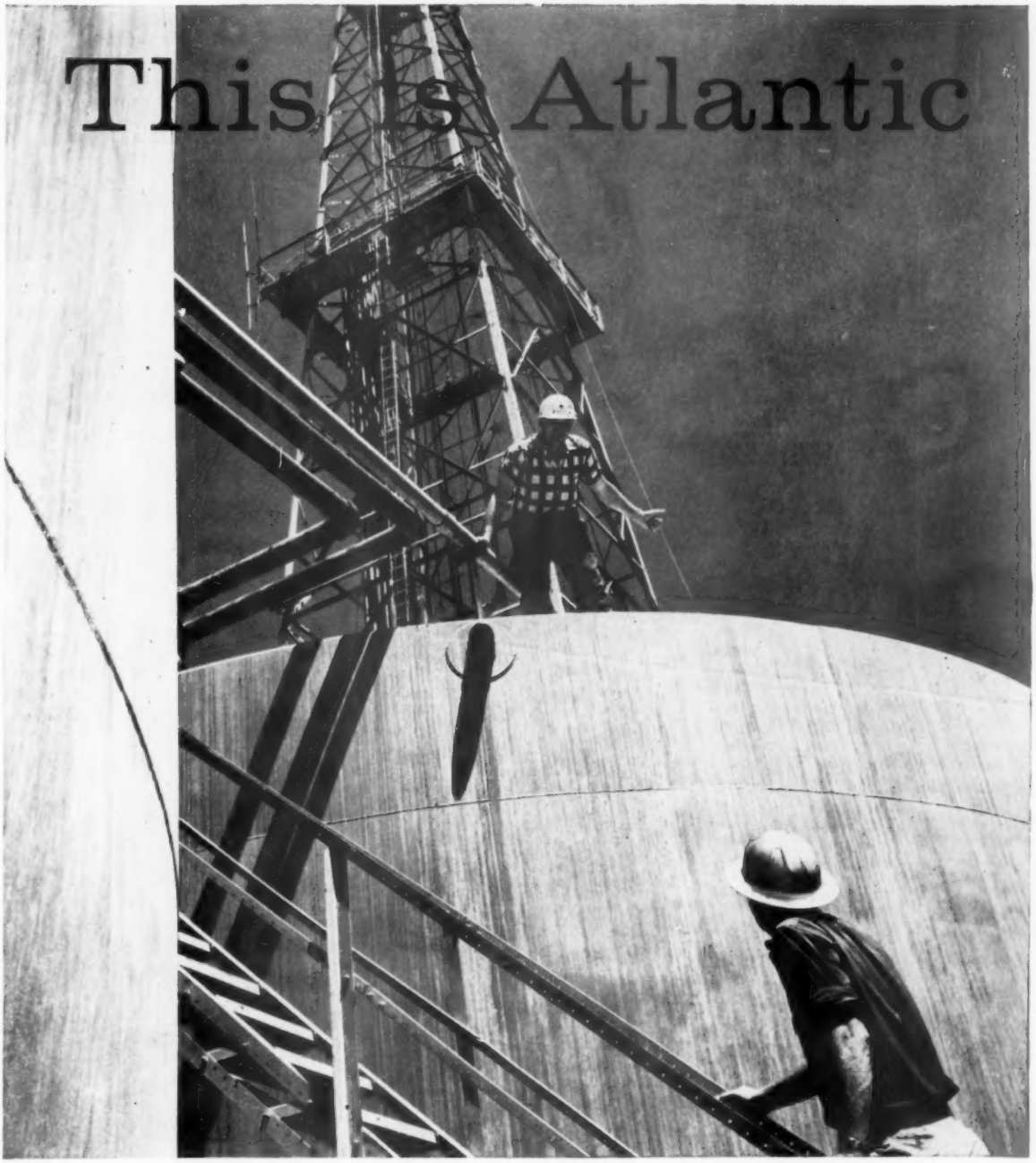
Buckwalter agreed with a previous statement by Kenneth L. Smith, vice-president, Ambassador Oil Corp., that excess waterflood oil production is having no impact on the market.

With respect to small operators, Smith had said that when an oil front generated from one direction by water injection reaches the producing well bore, individual wells must produce at capacity or the oil will be driven off the lease.

Humble Oil & Refining Co. favors the same type of waterflood proration as for primary production, with some exceptions.

Ray A. Baze, company division engineer, told the commission that waterflood proration is a sound conservation practice and gives waterflood operators an attractive profit. It also puts them in a uniform marketing position, he said, thus preventing preferential treatment.

Baze said exceptions could be made in the case of pilot waterfloods, and that special allowables could be assigned so that projects could be quickly evaluated.



PRODUCTION: From Canada to the Rio Grande . . . offshore in the Gulf of Mexico . . . in Cuba, Guatemala, Venezuela . . . in Syria and Turkey . . . Atlantic seeks oil to make certain that an adequate supply of crude always will be available to meet future needs.

ATLANTIC

THE ATLANTIC REFINING COMPANY

Producer, refiner and marketer of quality petroleum products

Alberta Bid Rule Hits Marginal Areas

Alberta's new policy of not posting a drilling reservation for sale unless the requesting party has agreed in advance to make a minimum bid of $10 per acre will have more than one effect.

Prior to the new law, no minimum was required.

Drilling reservations were included as a category of sales of Crown Reserves beginning in 1954, with choice lands bringing bids so high there was no question of setting a minimum.

The government, however, has always reserved the right to reject any or all offers.

According to Canadian Petroleum Assn. figures, the average price paid per acre for all drilling reservations has been $16.04 in 1955; $7.40 in 1956; $10.90 in 1957; $12.30 in 1958; and $8.50 for the first quarter of 1959.

The government's goal in enacting the new regulation was brought out in a meeting between the CPA executive committee and H. H. Somerville, Alberta's Deputy Minister of Mines & Minerals.

One effect will be to direct more activity to the more lucrative areas —which, over the long range, will mean concentrating work in areas from which oil is drawn in keeping with market demand.

This is the analysis of Doug S. Turner, Alberta division manager of CPA.

It follows, he says, that under prorationing, more oil would be allowed from these areas than would be the case if marginal areas had been more fully developed and came in for their share of the markets.

Although the new law does not prohibit work in the marginal areas, it should lead to the government's goal of discouraging interest in the poorer areas.

Somerville says there has been a growing trend toward applications for drilling reservations in the marginal areas, with some of the resulting bids being quite insignificant.

Some bids, which were below $1 per acre, have been rejected.

The government is fully cognizant of the poor oil market, Somerville says. But it is also concerned over the flow of revenue, which varies directly with the pace of resource development.

Marginal areas acquired for small sums are not filling the bill, in the government's opinion.

The government feels that in some cases a reservation application was made only in the hope that another party would develop nearby land while the applicant coasted along, doing as little work as possible.

As a result of the new policy, the number of drilling reservations put up for sale could drop by as much as 20% to 25%, Somerville says.

He grants that "we probably will suffer to some degree the loss of exploratory tests in marginal areas." But he adds that the government has to keep an eye on money and development, instead of "all exploration and no money."

A proper balance between exploration and development is essential, he says.

Though the industry has said the over-all effect of the policy will be to slow exploration, no objections have been raised as yet, according to Turner. He says he believes that the new policy may turn out to be "a good idea."

Somerville reportedly told members of the Alberta CPA executive committee that he favors the industry's accepting the minimum-bid procedure for the time being as a testing period.

But if it does not work satisfactorily, he said, then the industry should some back to the government with its suggestions.

New Perforator Unveiled

Lane-Wells Co. is offering what it calls "an entirely new approach" to directional perforating for multiple-string tubingless completions.

The service utilizes a new combination tool to locate collars, position the perforator in the zone of interest, orient the gun away from the other strings, and perforate the desired zone—all on one run in one string of casing.

The Directional Perforator consists of a collar locator, a nuclear orientator, a rotator, and a perforator.

It is run on a standard Lane-Wells perforating-logging unit, on a standard conductor line. A surface recorder keeps track of the location of collars and of other casing strings.

The entire operation is conducted only in the casing to be perforated.

No radioactive substances are injected in adjacent strings, nor is any mechanical device placed in them. The other strings are not disturbed in any way and can be kept on production, if desired, during the entire operation, according to Lane-Wells, one of the Dresser Industries.

The collar locator spots collars on the trip into the well.

When the zone of interest is reached, the nuclear orientor scans the zone to locate the position of the other casing strings. This scanning is carried out in stages, during which the orientor indicates the presence or absence of casing in a narrow zone immediately in front of the gun. These indications are recorded visually at the surface.

When one stage is scanned, the orientor and perforator are rotated to the next stage. This is done by raising or lowering the tool. Only 3 in. of travel up or down the hole is required for the rotator to move the orientor to the next scanning stage.

This scanning-by-stages operation is continued around the pipe for at least two complete revolutions. This insures a double check of the location of the other casing strings in relation to the string to be perforated.

The perforator is then positioned positively by the same rotator to shoot only in the safe zone away from the other strings. This positioning is checked with the orientor before firing.

DIRECTIONAL PERFORATOR for multiple-string tubingless completions is demonstrated by a Lane-Wells Co. official.

Big profits wait here for the marketer offering quality lubes and fast service

A big source of profits for the independent oil marketer is the highway and building-construction market. And a big share of this lubricant business goes to the man who offers top-quality products and on-the-site service to contractors.

Sun can help you in two ways:

1. The Sun line of top-quality lubricants can assure you the respect of contractors who want top-quality products to protect their valuable earth-moving equipment.

2. You can ask Sun to help you set up your service facilities and sell your quality-and-service story to busy construction people.

BUT REMEMBER—the products you offer must be right. Let us show you *how* right the Sun line is for your continued success. Write for full details to General Wholesale Department PW10, Sun Oil Company, Philadelphia 3, Pa.

GENERAL WHOLESALE DEPARTMENT

SUN OIL COMPANY

PHILADELPHIA 3, PA.

IN CANADA: SUN OIL COMPANY LIMITED, Toronto and Montreal

HERE'S THE BIT
THAT WILL CHANGE
YOUR MIND!
.....

FASTER PENETRATION
FULL GAGE HOLE--

The new Reed Y bits have changed the concept of how fast a hole should be drilled. These Y bits have been setting impressive records in fast drilling all over the oil country. Advanced design, using special alloy steels combined with precision manufacturing, provides maximum rate of penetration—in a straight, full gage hole.

The ability to hold gage is a built-in feature in every Reed bit you buy. Continuing research, hard hitting engineering, modern metallurgy, and forty-two years experience have developed a bit that will hold gage all the way.

Ask the Reed man who calls on you to give you the full story. He'll convince you that the bit to buy—if you want faster penetration and a full gage hole—is the modern Reed Y bit.

REED ROLLER BIT COMPANY *Houston 1, Texas*

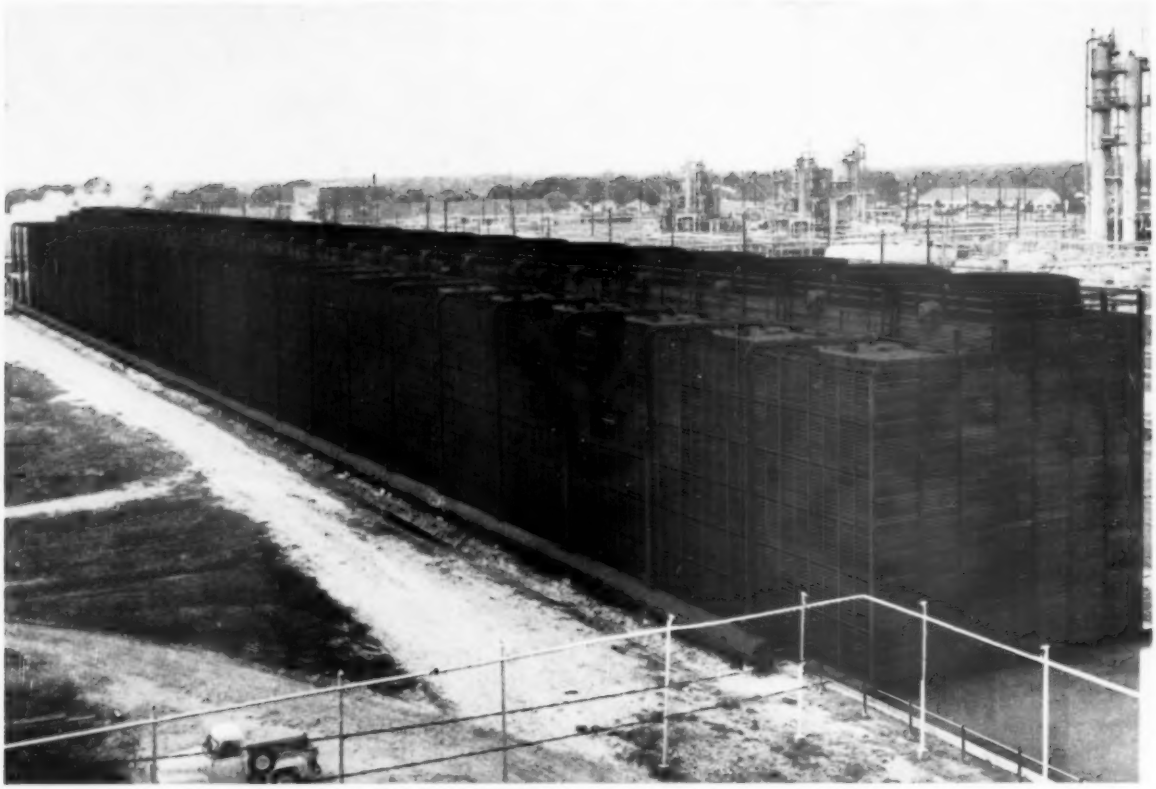
EXPORT OFFICE 1011 INTERNATIONAL BLDG., NEW YORK 20, N.Y. GULF COAST, MID CONTINENT, ROCKY MOUNTAIN AND CANADIAN DISTRIBUTOR FOR MARTIN DECKER PRODUCTS

REED

REED'S ROLLIN'

REED Y BITS

. . and this is just the beginning!



65,000 GALLON PER MINUTE HUDSON COOLING TOWER SUPPLIED IN EMERGENCY

Faced with shutdown of process units because of a damaged, partially inoperative cooling tower, a large Gulf Coast oil refiner called upon HUDSON for emergency supply of new cooling capacity. Despite necessity for modification of HUDSON standard design to conform to existing foundation, and though working under adverse condition of stepwise removal and replacement of partially operating old tower, more than 30 percent of the new HUDSON tower was operating in less than five weeks. The promised time schedule was met, the crisis averted, and guaranteed cooling performance exceeded.

Performance of such special services with speed, ability and integrity is a measure of the quality of HUDSON service — whether in repairing or replacing an operating cooling tower, or in designing and supplying a complete integrated system with balanced use of water and direct air for cooling all process streams.

In addition to water cooling towers, HUDSON designs and manufactures SOLO-AIRE units (for cooling solely with air), and COMBIN-AIRE units (for cooling with combination of maximum air and minimum water). Avail yourself of HUDSON's years of experience in integration of these all-encompassing categories of equipment into cooling systems utilizing optimum ratio of air and water balanced to best meet specific conditions of climate, process, and water availability and quality.

ONLY HUDSON OFFERS — — — —
process stream cooling systems integrating cooling towers, Solo-aires and Combin-aires for optimum balance of air and water cooling.

It will pay to consult Hudson during processing design stage of new projects.

HUDSON

ENGINEERING CORPORATION

FAIRVIEW STATION • HOUSTON, TEXAS

SALES OFFICES: 9935 Santa Monica Blvd. Beverly Hills, California • 122 East 42nd St. New York 17, N. Y. • 199 Bay Street Toronto, Ontario, Canada • 17 Stratton St., Picadilly London W. 1, England • Corrientes 1115 Buenos Aires, Argen. • Rua Mexico 45 Rio de Janeiro, Brazil

Gilsonite Mining Method Tested

American Gilsonite Co. is considering mining Gilsonite ore in Utah by means of a unique type of open-cut, hydraulic jet-piercing system.

Experiments and studies to date indicate that the new mining method could nearly triple production, eliminate timbering, improve safety conditions, and reduce costs substantially.

Mining costs are of paramount interest to AGC, which mines the Gilsonite—the company's trademark for the black asphaltite—at Bonanza, Uintah County (PW—Sep.5'58,p35). AGC is a joint subsidiary of Standard Oil Co. of California and Barber Oil Corp.

Gilsonite is converted to gasoline and metallurgical grade coke at a plant near Grand Junction, Colo. The gasoline is sold in competition with products processed from crude in the area.

Presently, AGC uses a hydraulically impelled crawler-tractor device with jet nozzles to cut Gilsonite from conventional underground mining faces.

The ¼-in. nozzles jet water at a pressure of 2,600 psi. to cut the Gilsonite from the mine face. One machine has a capacity for mining nearly 1,000 tons of ore per day.

The mine must be timbered to support the Gilsonite vein, for reasons of safety and to prevent any minor caving of the rock walls between which the mineral is deposited.

With the new method, AGC can direct the hydraulic jet streams vertically from the surface.

By suspending two nozzles from the top of the 1,600-ft. Gilsonite vein, the company experimentally has produced up to 1,300 tons in one eight-hour shift.

The jet machines would be suspended on a back-moving rig. Shattered Gilsonite would fall with water to the bottom of the mine, then be conducted, as at present in underground mining, by "V" notch to a central sump. From there it would be pumped to the surface, sized, and then moved in a water slurry, as it is now, 72 mi. to Grand Junction via a 6-in. high-pressure line.

No timbering would be required for the proposed open-face mining system. Should the mined-out area cave forward, a new hole or shaft would merely be drilled and the cutting process continued.

AGC believes it can successfully suspend the jet-piercing equipment more than 1,000 ft. down into the mine from the surface, without too much mechanical difficulty. Underground television cameras may be used to keep tabs on the flow of water and ore along the bottom drift to the central pump.

The jet-piercing team on the top of the vein at the surface could, by this device, keep close check on the rate of ore flow, possible obstructions, and the like.

AGC has long had as its mine-cost goal the production of Gilsonite at less than $1 per ton.

By means of its 72-mi. transmission system, whose capacity has been expanded from an initial figure of 700 tons per day to 1,000 tons per day, AGC delivers the mineral to Grand Junction at cost of about $1.75 a ton. This cost includes filtration in the coke-refiner at Gilsonite, Ohio.

AGC can now move a slurry containing 45% Gilsonite, compared with 35% two years ago. This was accomplished without an increase in pump capacity.

What's New / IN PRODUCTION

The Navajo Indian Tribe is working out arrangements to have an unnamed company develop 1,200 disputed acres in the Aneth area of New Mexico.

Before the private deal can materialize, however, it must be approved by the Secretary of the Interior.

The Indians last June rejected bids offered for this same land, on the ground that they were not high enough.

A second attempt to sell the lands was called off a few days before the sale date last week.

The state of Utah also claims the 1,200 acres, so the Indians refuse to certify title because of pending litigation.

•

Title to sub-sealevel horizons in 24 quarter-sections of land in the southwest Kansas portion of Hugoton gas field now hinges on a ruling by U.S. District Court judge.

The judge, Delmas C. Hill, heard oral arguments on the case last week. He reserved judgment pending filing of additional briefs.

The 24 plaintiffs are asking the court to cancel all leases on horizons below sea level and return title to them. Title to horizons above sea level are not in dispute.

Westhoma Oil Co., defendant, holds present title to the disputed horizons, which have increased in value due to development of production in these levels in the Hugoton field.

The plaintiffs contend the leases for sub-sealevel horizons terminated at the end of the primary term in 1954, because there had been no production up to that time in the "deep" horizons.

•

Lands in the Swan Hills and Judy Creek areas accounted for more than $6-million of the total $7,667,471 paid in a recent Alberta lease sale of 13,849 acres.

Imperial Oil Ltd. was high bidder, paying $3,931,561 for seven 320-acre parcels in the Judy Creek region south of Swan Hills. Imperial's prices ranged from $402,126 to $642,145 per parcel.

In the same general area, a 320-acre parcel was bought by Atlantic Refining Co. for $415,015. Shell Oil Co. of Canada acquired 640 acres for $165,555.

Mobil Oil of Canada took two of the three 320-acre parcels in Swan Hills, paying a total of $1,503,503. The remaining 320 acres offered in Swan Hills was bought by Plymouth Oil Co. for $435,200.

Sixteen companies acquired land in the sale. Some 18,969 acres were offered, but bids were rejected on 5,120 acres.

•

A waterflood project which operators believe may boost recovery by 3-million bbl. in an Andrews County field has been approved by the Texas Railroad Commission.

Humble Oil & Refining Co., as operator, plans to inject water into the Three Bar (Devonian) field. Company engineers estimate that the flood will add between 500,000 and 3-million bbl. to ultimate output of the field.

The commission also was asked to

approve a waterflood program that will yield an estimated 3.5-million to 4-million additional bbl. of oil in Tatum (lower Pettit) field, Rusk County.

J. C. Trahan Drilling Contractor, Inc., made the request.

•

H. C. Smith Oil Tool Co, Compton, Calif, has changed its name to Smith Tool Co.

Donald E. Graham, executive vice-president, says a new diversification program is the reason for the name change, which has been approved by stockholders.

•

The state of Texas has won title to 3,365.52 disputed acres in Laguna Madre, 15 mi. north of Port Isabel, Cameron County.

The four-year-old dispute was settled last week by the 10th Court of Civil appeals, in Waco.

J. W. Luttes, owner of ranch land bordering Laguna Madre, claimed the mud flats as accretion to his land. He had leased the flats to Shell Oil Co.

The potentially oil-rich land now will be leased by the state.

•

Hunt Oil Co. is asking for 320-acre spacing in the West Tioga area of Williams County, N.D., claiming such spacing will make it possible to recover an estimated 8-million bbl. of oil from the area.

Hunt officials told the North Dakota Industrial Commission it plans rapid development of the area to define the reservoir and evaluate possible application of secondary recovery methods, if the spacing rule is changed from the present 80 acres.

W. H. Bowie, chief engineer for Hunt, estimates that there are about 17,000 acres in the proposed field area, which now contains six wells and seven abandoned holes.

Two of the wells are reentries, previously abandoned as uneconomical under the 80-acre spacing set for McGregor-Madison and West Tioga-Madison fields, parts of which are in the proposed field.

•

Field and statewide rules of the Louisiana Oil Conservation Commission are now available in complete, pubished form.

The rules, with accompanying maps, are bound in three looseleaf binders, so that new rules and amendments can be added.

R. W. Byram & Co., Austin, Tex., is the publisher.

•

The Soviets claim they have developed "a truly revolutionary" new drilling method, described as "turbo-reactive drilling," which cuts costs by more than one-third and increases "productivity" by five times.

A report from Tass, the Soviet news agency, says the new method involves use of two connected vertical turbine drills, which rotate around a joint axis, with each of the turbine drill bits operating as usual.

The news agency said the new turbodrill was used to drill a hole 1 meter (3.281 ft.) in diameter and 1,706 ft. deep. Actual drilling time was only eight days, Tass continued.

The report added that Soviet engineers are now working on a turbo-reactive drill system that will employ four turbine drills connected into a single unit to drill holes two meters (6.562 ft.) in diameter.

•

Monterey Oil Co. is proposing to extend use of automatic custody transfer systems in Fullerton (Clearfork) field, Andrews County, West Texas.

Monterey, operator of the 24,309-acre unit, has asked the Texas Railroad Commission to approve such a system for its Battery A.

This battery presently handles production from 51 wells. A 40-well extension that is being installed will bring the total to 91.

There are 597 wells in the unit.

•

Engineering

Delta Tank Mfg. Co. has developed a skid-mounted, vacuum-type tank designed to recover liquid drilling mud from storage pits at drilling sites.

Delta officials say the 2,100-gal. unit will help eliminate mud waste in the field because of its efficiency in recovery.

Power for the unit is supplied by a separate gasoline-driven vacuum pump that can recover a full load of 17-lb. mud (35,700 lb.) in about 10 minutes.

•

Drilling Highlights

Utah—Pure Oil Co. No. 1 U.S.A., section 10-30s-24e, San Juan County, flowed gas at the rate of more than 22.3-million cf/d on the basis of a series of drillstem tests of a Mississippian formation to 7,543-643 ft. The Northwest Lisbon prospect is 29 mi. southeast of Cane Creek and about 40 mi. southeast of Big Flat, where Utah's only existing Mississippian oil production is located.

Nebraska—Frontier Refining Co. No. 1 Refiners, section 14-2n-28w, Redwillow County, recovered 1,571 ft. of 35-gravity oil and 15 ft. of mud-cut oil on 2-hour drillstem test of the Lansing-Kansas City at 3,274-322 ft. The prospect is 10 mi. northeast of Lansing-Kansas City production at the one-well Poore field.

Alaska—Standard Oil Co. of California No. 32-15 Swanson River Unit, Kenai Peninsula, flowed at the rate of 1,300 b/d on test of the Hemlock below 11,400 ft., making it the fourth producer on the unit. R. G. Follis, Stancal board chairman, has said a pipeline will be built to deep water at Nikiski on Cook Inlet when production from the unit tops 3,000 b/d on a sustained basis.

New Mexico—Ohio Oil Co. No. 1 Ralph Nix, section 29-18s-26e, Eddy County, flowed gas on 2-hour test at the rate of 4,412,000 cf/d plus 44 b/d of condensate through 16/64-in. choke and perforations at 9,070-115 ft. The prospect is 2 mi. west of the shallow Dayton pool.

In San Juan County, International Oil Corp. No. 1 E. E. Fogelson, section 27-30n-11w, was completed for 5,280,000 cf/d of gas plus 5 bbl. of condensate per hour through perforations in the Dakota, topped at 6,820 ft. The deep-pay discovery is in the Aztec shallow-gas area.

East Texas—B. G. Byars and R. H. No. 1 Bettie McClung, Calloway Dean survey, Smith County, was completed for 280 b/d of 43-gravity oil through 13/64-in. choke and perforations at 8,333-37 ft. and 8,349-53 ft. in the Pettit (lower Cretaceous). The pool opener is 1½ mi. west of Wright Mountain field.

Alberta—British American Oil Co., Co., Ltd., No. 11-31 Lookout Butte, lsd 11-31-1-28w4, flowed at the rate of 7-million cf/d of gas on test of the Mississippian, topped at 11,955 ft. Tests will continue, and the company estimates that condensate will be produced at the rate of 100 b/d. per million cu. ft. of gas. The prospect is 7 mi. south of Pincher Creek gas field, giving rise to the belief that the test may open a gas field lying partly in Alberta and partly in Montana.

AERO HUNTS OIL DOWN UNDER

New Australian airborne magnetometer survey for Magellan Petroleum Corporation will cover 30,000 square miles

Map shows 30,000 square mile area in Australia being surveyed by Aero Service Corporation for Magellan Petroleum Corporation.

Operating from two bases in Queensland — Charleville in the north and Longreach in the south —Aero Service crews are at work right now mapping petroleum concessions in a 30,000 square mile area of north central Queensland. The survey is being performed for Magellan Petroleum Corporation.

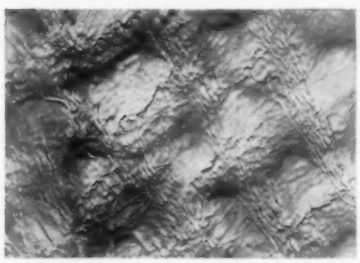
The high sensitivity Gulf airborne magnetometer, Mark III – a proved reconnaissance tool – is being used to determine the thickness of sedimentary sections of the area. An Aero spokesman explained that the instrument would also point out areas of unusual interest where anticlinal structures may be present.

The survey is being flown at an altitude of 2,000 feet. Flight lines are spaced at 3 miles, in an east-west direction. Magnetic data are being compiled at a 10 gamma interval, on maps at a scale of 1 inch = 2 miles. First maps are scheduled to be delivered by Aero Service crews about 45 days after completion of the survey.

Aero's DC-3 (above) is shown with Gulf high-sensitivity Mark III magnetometer trailing from aircraft.

This aerial survey represents Aero's second major surveying job in Australia. A few years ago Aero crews made an aerial survey of over 80,000 miles of Australian desert.

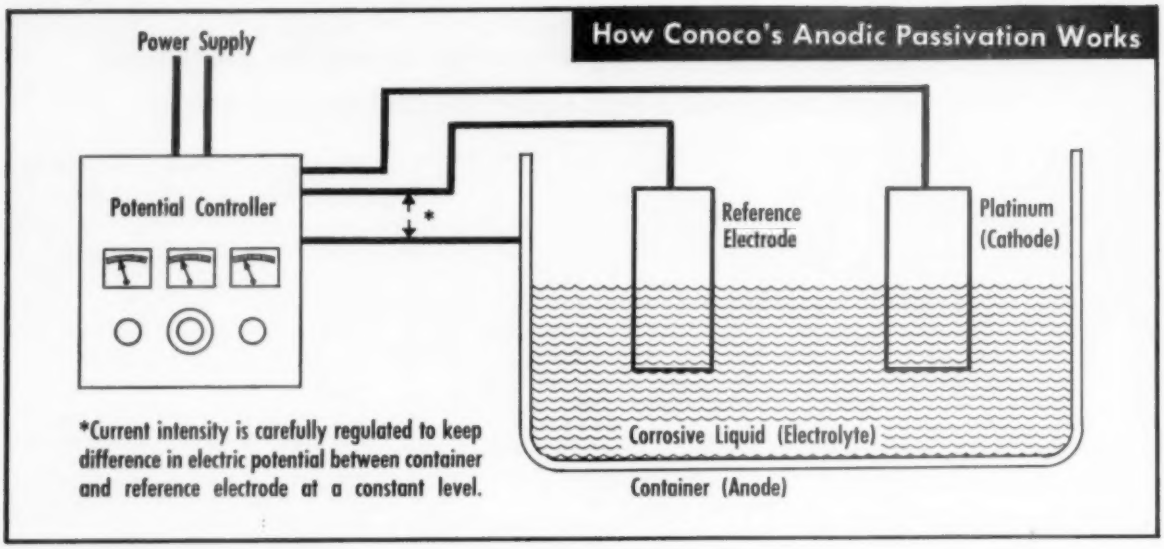
Aero experience is world-wide: from Alaska to the Spanish Sahara, Aero crews are carrying out airborne geophysical studies. Aero representatives will be glad to provide complete information on the experience and capabilities of the company. Crews are ready to undertake new assignment anywhere in the world. Find out how these "on location" crews can cut mobilization costs.



Flights over featureless terrain are guided by Radan® doppler navigation. Survey plane is brought to starting point electronically. Maps or photos are not required. Pilot flies with guidance of Pilot's Direction Indicator.

Aero Service's fully integrated mapping services include airborne magnetometer surveys, geophysical interpretation, aerial photography, photo interpretation, photo mosaics, pipe line surveys, relief models and topographic plans. It employs the Gulf magnetometer and RADAN,® Shoran, Lorac, Raydist and Decca plane-positioning systems.

Aero's representative in Australia is M. H. Laurence, P. O. Box 6, Hurstville, New South Wales. In Europe and North Africa, W. P. Des Laurier at 20 Albert Embankment, London S.E. 11, is Aero's representative. World headquarters of Aero Service Corporation are located at 210 East Courtland St., Philadelphia 20, Pa., U.S.A.


How Conoco's Anodic Passivation Works
Power Supply
Potential Controller
*
Reference Electrode
Platinum (Cathode)
Corrosive Liquid (Electrolyte)
Container (Anode)
*Current intensity is carefully regulated to keep difference in electric potential between container and reference electrode at a constant level.

Another Way to Fight Corrosion

An electrolytic method of preventing corrosion of metal containers by acid or caustic liquids has been developed by Continental Oil Co. It's known as Anodic passivation.

The principle of the process is based on a discovery made by F. Flade of Germany, in 1911. He found that when an electric current is supplied to a metal in contact with a corrosive acid, after a certain critical voltage is reached, the current suddenly drops to a very low value. This point is referred to as the "Flade arrest."

Further discoveries have established that a period follows during which the metal surface is immune to corrosion, or "passivated." If the intensity of the current can be maintained exactly at the value required for that passivation, resistance to corrosion can be extended indefinitely.

The process is somewhat similar to cathodic protection (PW—Sep.18'59, p46)—but more elaborate.

The container is the anode of the electrolytic system. A platinum rod is used as cathode, and the liquid itself is the electrolyte. A calomel (or silver chloride) cell is used as a reference electrode: the difference in potential between that reference cell and the anode is used to maintain the current used in the process at a constant level (diagram, above).

STAINLESS STEEL TANK, badly pitted by acid and caustic, needed seven repairs per month. Since Anotrol system was installed a year ago, no repair has been required.

Key to the "Anotrol" process is development of a controller of electrical potential that can (1) supply a high intensity current for a short period, and (2) maintain, within very narrow limits, a low-intensity current that keeps the metal passive.

While a current as high as 300 amp. is sometimes required to establish passivity, especially with certain caustics, the intensity of the current necessary to maintain that passivity is extremely low—frequently a fraction of a microamp.

Also, the time needed to bring the system across the "Flade arrest" point to the passive state is very short, in some cases a matter of milliseconds. Very close control is therefore essential.

Temperature changes influence the balance of the anodic passivation system. An increase in temperature increases the intensity of the initial current needed for passivation, as well as the current needed for keeping the surface passive.

The theory behind the process is that a thin film forms rapidly on the metal surface; this film is insoluble and protects the metal against further attack.

The exact nature of this film is still controversial: It may be oxygen, or an amorphous iron-oxygen structure.

As the film forms, the current between anode and cathode tends to be cut off: At once the film starts to disappear, and the metal is again exposed to corrosion. But by maintain-

ing the current automatically balanced at the exact intensity required to keep the film on, continued protection is assured.

The technique is said to be of immediate practical value for stainless and mild steel containers used for storing, processing, or transporting corrosive chemicals, such as sulfuric acid, phosphoric acid, and a variety of strong caustics.

Conoco has conducted extensive experiments, both in the laboratory and on a 500-gal. stainless-steel tank filled with 67% sulfuric acid.

In addition, the Anotrol process has been in actual operation for a year at Conoco's Baltimore (Md.) petrochemical plant, to protect containers used in the neutralization of sulfonic acid with 20% caustic soda. There, it is being applied to a neutralization tank of 304 stainless steel, to a mild-steel oleum storage tank, and to a measuring tank.

The neutralizer tank, which is subjected to alternate attack by acid and caustic products, presents an extreme challenge to anodic protection, says Conoco. The tank was subject to serious pitting and, before the Anotrol system was installed, had to undergo repairs about seven times a month.

Conoco reports satisfactory corrosion control in all three containers; not a single repair job has been necessary on the neutralizer.

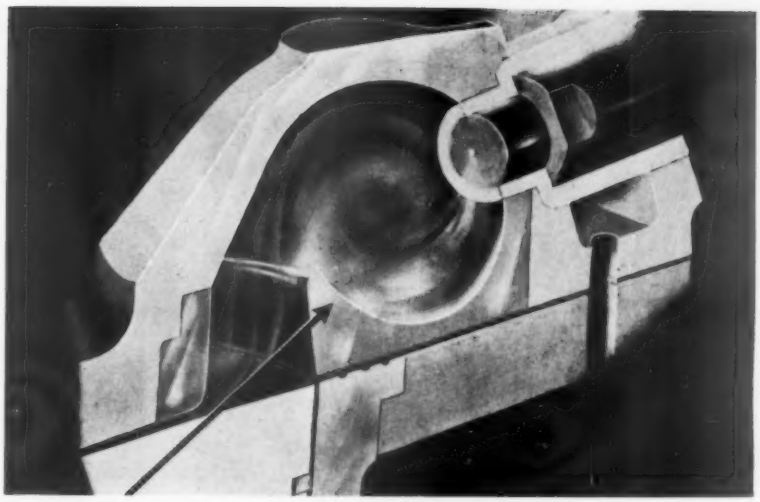
One important advantage of the Anotrol system is that its effects can be spread considerable distances from its control, according to Conoco.

The system has "throwing power," as Conoco puts it. For example, a 60-ft. length of ¾-in. stainless-steel tubing, with 15 bends, was passivated, with both the cathode and the reference electrode located in the acid container at one end of the system.

Conoco calls attention to certain limitations in the use of anodic passivation at present, but says it plans additional research and development to try to overcome them.

Among these are:

- Copper-base metals, such as brass, bronze, and aluminum bronze, cannot be passivated.
- Reducing systems, especially those containing halogens, cannot be passivated (although a reasonable amount of halogens as additives can be tolerated in oxidizing systems).
- There is a possibility, according to certain scientists, that cracks may develop in metals subjected to anodic passivation, although no evidence of cracking has yet been discovered during the Conoco experiments.



ALLOY INSERT between precombustion chamber and cylinder is reason these . . .

Light Diesels Can Burn Any Fuel

A light-weight, high-speed diesel engine that can operate equally well on a wide variety of fuels has been developed by Hercules Motor Corp.

While small high-speed diesel engines have long been popular in Europe, they have never been extensively used in automotive applications in the U.S. The principal objection, according to W. L. Pringle, Hercules president, has been the lack of an engine with the proper combination of weight, configuration, high-speed operating characteristics, and initial cost.

The new Hercules motors have power outputs as low as 50 hp., and are expected to open a market among light and medium-sized trucks.

"These engines," Pringle says, "are not scaled-down versions of large truck diesels, but are entirely new engines, specifically designed to take into account all requirements."

They come in several models, with three to eight cylinders, in-line or V-construction, with or without turbocompressors.

The line also includes heavy truck diesels, from 200 to 350 hp., with load capacities up to 76,800 lb. But the real innovation lies in the lighter range.

The "polydiesel" engines are said to combine the fuel economy of a direct-injection engine with the silent, smokeless operation of a precombustion-chamber diesel.

At the diesel engine meeting of the Society of Automotive Engineers in Chicago this week, E. A. V. Horiak, director of engineering of Hercules, reviewed the development that led to the design of the new line. He attributed their success to a special alloy insert (picture, above), which separates the precombustion chamber from the cylinder space.

It is relatively easy, Horiak said, to control the temperature of this insert. A pintle-type, self-cleaning nozzle injects the fuel into the precombustion chamber. Some of the fuel is injected against the hot surface of the insert, and is vaporized. This, Horiak explains, provides controlled combustion, with proper ignition and minimum knock, even with extremely low-cetane fuel.

It is possible to operate these engines, according to Hercules, upwards of 100,000 mi. in the most rigorous types of service without maintenance, and with good fuel economy.

While many multifuel engines require compression ratios up to 24 to 1, the polydiesel engine is said to be able to start and operate on 84/92-octane gasoline, with a compression ratio of 18.5 to 1, and to idle smoothly at 400 rpm. with no load.

The maximum explosion pressure remains under 1,000 psi., according to Hercules, keeping loads and stresses very low.

No adjustments are necessary in changing from one fuel to another, Hercules says.

The specific fuel consumption, Horiak reported, is the same with various fuels. Nevertheless, the maximum power obtainable for a given injection pump setting is, as can be expected, a function of the specific weight of the fuel: the heavier the fuel, the greater the maximum power.

"NOW

wait
a
minute . . .

Tell me why I can make any more money with Houdry's catalyst than with someone else's?"

Quite a challenge . . . coming from a chemical engineer who knows plant operations inside out. As prospective buyer of a catalyst, you'd probably ask the same question, yourself.

Well, here's the answer.

You may require a catalyst for any one of a number of specific processes. No matter where you buy it, its composition may be pretty much the same.

But composition does not prove its earning power. This is something that can be done only in your process, in your equipment, in your plant. And that is where the experience of your supplier counts.

You make a maximum return when your supplier understands your needs, and can make his catalyst deliver accordingly. Because we are process designers, creators of catalysts and catalytic processes, this is a job HOUDRY people know well.

When you buy catalyst from HOUDRY, you're buying all the benefits of pioneering experience in catalysis. Why not tell us your requirements, and let us give you a more detailed description of how we can serve you.

*

HOUDRY
CATALYSTS
HOUDRY PROCESS CORPORATION
1528 Walnut Street, Philadelphia 2, Pa.

*Houdry means Progress . . . through Catalysis

What's New / IN PROCESSING

A catalytic oxidation process has been developed by Universal Oil Products Co. to remove sulfur compounds from gasoline and light distillates.

The Merox process uses atmospheric oxygen and a caustic solution at ambient temperature. It's effective, UOP says, either for the removal of mercaptans from the products, or simply to doctor-sweeten them.

Its main difference from the conventional extraction process with caustic solutions lies in the regeneration of the caustic, which is accomplished catalytically instead of by the steam stripping process.

•

Tidewater Oil Co. will build a $1.5-million gasoline plant in the Hollywood Houma Fields area, Terrebonne Parish, La.

The proposed 75-million cf/d plant will be the low-temperature absorption type, designed to operate at zero Fahrenheit, and at a pressure of 1,030 psi. Recovery is estimated at 1,030 b/d of propane, butane, and natural gasoline.

The contractor, O. L. Olsen Co., Houston, has set completion for late 1960.

•

Humble Oil & Refining Co. is planning a big boost in production of high-quality lube oils.

The company has already started engineering work on a new 9,500 b/d lube plant, and expansion of the lube dewaxing and extraction plants, at its Bayway (Tex.) refinery. Completion is scheduled for late 1960.

•

A platforming-Unifining unit is planned for the Regina (Sask.) refinery of Federated Cooperatives, Ltd.

The $2-million addition will boost annual production of heating, furnace, and diesel oils by 10-million gal.

•

Shell Oil Co. last week announced a $1-million expansion program for its Sheridan gas cycling plant, Colorado County, Tex.

The program will get under way in the first quarter of 1960, and is slated to be completed by the end of the year. New facilities will include field gathering lines and absorption and refrigeration equipment.

Throughput will be boosted to about 130-million cf/d from its present 110-million. New facilities will also permit recovery of about 2,000 b/d of additional liquid products.

•

Engineering

Porous plastics that are impervious to liquids but permit passage of air and gases will soon be available from ESB-Reeves Co., Yardley, Pa.

Porosity is obtained by adding starch to the resin during processing. The mixture is then boiled, and the starch swells.

Later the starch is hydrolyzed in dilute sulfuric acid, leaving millions of microscopic, interconnected cells, and the plastic resumes its original size.

The degree of porosity desired is controlled by the selection of the type and concentration of starch in the resin.

Modern Robin Hood

When mechanical devices failed to relight the flare tower at British American Oil Co.'s gas conservation plant at Nevis, Atla., the bow-and-arrow technique came to the rescue. This marksman hit the bulls eye, igniting the flare at the tower top.

FLORHAM PARK, NEW JERSEY, is the location of this new Esso Research and Engineering Center.

A NEW ESSO RESEARCH & ENGINEERING CENTER

TO SERVE THE OIL INDUSTRY

The ESSO RESEARCH AND ENGINEERING COMPANY is proud to announce a new asset in its industry-wide process licensing program. Recently completed at Florham Park, New Jersey, is a new research and engineering center devoted to the development of improved refining processes and the design of modern, efficient refining and petrochemical units. The new facilities are ideal for development work on refining processes, an area of science in which this company pioneered. Equipment will feature automated pilot plants and high-speed electronic computers. As in the past, fully-developed processes will be licensed to the petroleum industry throughout the free world. The processes now available through the achievements of Esso Research and Engineering include Model IV Fluid Catalytic Cracking, Hydrofining, Powerforming, Fluid Coking, CAA Butadiene Extraction and many others.

ESSO RESEARCH AND ENGINEERING COMPANY
P. O. Box 243 Elizabeth, New Jersey

Your key to progress . . . an Esso Research process.

New Storage Boosts Propane Shipments

Texas Eastern Transmission Co.'s propane shipments through its Little Big Inch pipeline, a slim 223,063 bbl. last year, may climb to 2½-million bbl. in 1959-60, spurred by new, still-unfinished underground storage.

Texas Eastern made its modest entrance into propane pipelining after completing conversion of its Little Inch line from a natural gas pipeline to a products pipeline in the spring of last year (PW—Jun.6'58,p16).

The line was converted for transportation of a variety of products, but propane was high on the list.

Of the 22,306,349 bbl. of products shipped through the line last year, however, only 1% was propane.

Reason: insufficient storage at points of origin and delivery.

Though growing rapidly, propane demand is highly seasonal. Texas Eastern had to provide storage for shippers at the line's point of origin, in the Houston producing area, and also in the Midwest market.

Big-volume storage is now being made available to shippers at terminals at Mt. Belvieu, Tex., and Todhunter, Ohio. Both facilities are still under development.

Propane can be stored at Mt. Belvieu, 25 mi. from Houston, for delivery at ten distribution points along the common carrier line as far north as Chicago.

Propane stored at Todhunter, near Lebanon, Ohio, is slated for distribution almost exclusively in the Midwest, though some probably will reach eastern markets.

The Mt. Belvieu storage facility currently consists of a partially developed salt well of 320,000-bbl. capacity. But at least two more wells will be developed, and the facility will eventually provide capacity for about another 2-million bbl.

The wells are located in the Barber's Hill salt dome.

The first well was spudded in March. It was drilled to a depth of between 3,500 and 4,000 ft., or about 2,500 ft. into the salt.

The well was recently connected to the Little Big Inch line to permit propane shipments to begin, even though installation of metering and pumping equipment had not yet been completed.

Meanwhile, development of a second "jug" was started. When it's finished, Texas Eastern estimates, it will have a capacity of between 700,000 and 800,000 bbl. At that time, a third well, with a capacity of about 1-million bbl., will be washed out.

"Several other wells will be added as the need develops," according to a company official.

The winter's first 200,000-bbl. slug of propane from Mt. Belvieu has already been put into the line.

The shipper isn't known. But industry sources say that Phillips Petroleum Co., Bay Petroleum Corp., and Warren Petroleum Co. probably will be big users of the line.

Texas Eastern's Mt. Belvieu terminal is adjacent to LPG storage facilities of these three companies, plus those of Texas Natural Gasoline Corp. and Texas Butadiene & Chemical Co.

All five companies can easily use its storage and transmission facilities, according to Texas Eastern. In addition, a connection will be made available to Magnolia Pipe Line Co.

Terminal manifolding permits receipt of propane into Mt. Belvieu from pipelines whose flow rates are less than that of Texas Eastern's main line.

Propane is delivered to the terminal through Texas Eastern's line from refineries in the area at a rate of between 1,000 and 2,000 bbl. an hour.

Propane delivered at less than that rate can be manifolded through two 700-hp. centrifugal injection units, which will pump it into the wells.

Storage has also begun at Todhunter, where three caverns have been carved out of rock. Combined capacity: 485,000 bbl.

A fourth cavern is being rushed to completion now, and a fifth will be finished in February (PW—Sep.11 '59,p44). The two will increase capacity by 360,000 bbl.

The Todhunter storage caverns have been mined out of shale. Their floors lie about 350 ft. below the earth's surface. Butane, as well as propane, will be kept there.

A fractionator cleans the gas before it's put in storage. A dehydrater removes moisture before it's loaded on trucks or railroad cars for distribution.

Millard K. Neptune, Texas Eastern senior vice-president, says his company's current program to develop underground storage for LP-gas is the most extensive in the U.S.

"Underground storage is a necessary element of the over-all transportation and storage service which Texas Eastern's Little Big Inch Division offers the LP-gas industry," he says. "The facilities should go a long way toward eliminating the summertime excess and wintertime shortages of propane."

Neptune foresees a big upsurge in propane demand.

He cites propane's increasing role as a component in plastics and other synthetics as one spur to the growth.

For the present, however, he sees propane's chief value as a fuel for both industrial and domestic purposes.

Ready availability of natural gas in the area, however, means plenty of competition for propane.

Several companies are expanding their transmission systems into the Midwest and the Ohio Valley. Leading the current expansion wave is Tennessee Gas Transmission Co., which is now moving gas through its new line to Joliet, Ill., and is hoping soon to have an O.K. to build a line from Canada (PW—Oct.16'59,p54).

Propane will comprise only a small part of the total volume of products that will be moved through the Little Big Inch pipeline system this year. Last year, 81% of the system's throughput was motor fuel, and 18% was distillate.

Texas Eastern's 1,168-mi. system extends from the Houston area to Moundsville, W. Va., with a spur to Chicago.

Delivery terminals on its main line and spurs are located at El Dorado, North Little Rock, Arkansas City, and Helena, Ark., Cape Girardeau, Mo.; Princeton, Seymour, and Indianapolis, Ind.; Todhunter, Ohio; and Chicago, Ill. (map).

A new terminal is now under way at Arcadia, La.

A new pumping station is being built on the Chicago spur, with at least two more stations planned at points yet to be determined.

Texas Eastern is "actively considering" extending its system northeast from Moundsville to supply other markets.

A year ago, Texas Eastern said it was giving "high priority" to this extension (PW—Aug.1'58,p38).

The status of this proposed line has apparently risen over the year. Texas Eastern indicates that it's making a fine-tooth survey of market prospects in the Northeast. "The extension will be made when all justifiable factors are present," says a Texas Eastern spokesman.

What's New / IN PIPELINES

Transwestern Pipeline Co. is set to start its Texas-to-California pipeline now that all its 14 gas suppliers have agreed to prices set by the Federal Power Commission.

In August, FPC ordered that producer prices for the proposed line be lowered, by from 1¢ to 6¢ per Mcf., below prices proposed in the suppliers' contract (PW—Aug.14'59,p-17).

Early this month, it ruled that producers could show their proposed rates were "required by public convenience and necessity," while supplying gas at the lower prices (PW—Oct.2'59, p11).

All 14 have accepted this FPC condition, a Transwestern spokesman says.

•

Anchorage Gas Corp. expects to start construction next spring on a 165-mi. pipeline to tap new gas reserves on Alaska's Kenai peninsula. Engineering will begin immediately, according to Robert B. Baldwin, of Houston, president of the firm.

The $12-million line would carry gas to Anchorage, where the company will spend an additional $4-million for a distribution system.

•

Husky Oil Co. plans to build a 100-mi. products pipeline from its Cody (Wyo.) refinery to Billings, Mont. Completion of the $8-million line is slated for late 1960.

•

Construction will begin next week on an 87,500-ton tanker at Mitsubishi Shipbuilding & Engineering Co.'s Nagasaki (Japan) shipyard.

The $11.7-million vessel is being built for Mitsubishi Anglo American Shipping Co. The Bermuda firm has another 87,500 tons on order.

Tiny Tankers Tell Weather's Tale

Tests with tanker models under simulated weather conditions, just completed for Esso Research & Engineering Co., are expected to result in savings in future building of piers and open-water moorings. The experiments were aimed at determining maximum pier and mooring strengths needed in docking tankers.

Wind-tunnel tests showed that wind forces often are over-calculated in building a pier or mooring, which results in unnecessary costs. Wave tests were also conducted with a model of a 73,000-ton tanker, above, with swells simulating 15-ft. waves. Results of this test are still being evaluated.

Does Increased Market Share Mean Greater Profits?

Not always, marketers find. And where profits may suffer, it may be wiser to take a cut in market share.

Marketers across the country are taking a new look at the meaning and importance of market share—the ratio of their company's sales to the total market.

"We have always measured our market share," says one economist, "but we have not questioned what our measurements actually meant. We should spend less time calculating and more time contemplating."

This revaluation of the market-share concept has been brought on, in part, by the shift in emphasis in many companies from sales expansion to profit maximization.

Instead of trying to boost sales through service-station expansion, marketers are searching for the share of market that maximizes profits rather than sales.

Economists point out that there is a point in market-share expansion beyond which it is senseless to go, because profits begin to suffer. To find this point, these economists isolate certain questions of logistics, competition, and public relations which first must be answered. Among them:

- How many stations can be built before competition among dealers selling the same brand tends to cause a tapering off in the increase of sales normally brought on by an expansion of outlets?
- When will an investment in advertising produce a greater return in a market area than an investment in service stations?
- When will an expansion of market share attract the attention of government and arouse public criticism?
- How many stations can be added before a basic enlargement of supply and transportation facilities and administrative overhead is required?

One marketing vice-president sums it up by saying that market share must be balanced against the economics of supervision, transportation, and advertising.

"I don't want too much market share," he adds. "If I get too much, I can lose mobility in price wars, for example."

Despite the new thinking about market share, there are still many executives who work to see that their share of the market at least holds its own over the years. "If the industry increases sales 10% in St. Louis," says one Midwest executive, "we would expect our sales to increase 10% too."

But a sales manager from another company says, "I don't mind a slight decrease in market share, as long as my sales keep increasing."

He points out that the physical aspects of production and transportation often make it impossible for a company to keep up with its competitors in certain areas. "If some one puts in a new pipeline or opens up a hundred stations in my area," he says, "I can't expect to keep my share of the market.

"It would be much more profitable to expand in another area that is closer to my refineries, and even to open up in a new market area entirely, where supply problems are more easily solved."

At least two major oil companies—Standard Oil Co. (Ind.) and Shell Oil Co.—have actually tried decreasing the number of their stations in order to achieve greater economy of operation. The trick is to attract greater gallonage per station to larger, more modern outlets.

Even though this plan may, as an Indiana spokesman says, result in a decrease in total gallonage, the improvement in profit margin is expected to compensate for the loss in sales. It's "dollars, not gallons" that is the company's aim (PW—Oct.9'59,p15).

One of the advantages that Shell has found in operating a small number of large stations in certain areas is the reduction it achieves in dealer turnover—one of marketing's most troublesome problems.

The size of a company seems to have considerable bearing on its attitude—pro or con—on service station expansion.

Many of the large marketers interviewed by PETROLEUM WEEK are beginning to place less stress on the expansion of market share through the building of outlets, and more on achieving greater efficiencies through merchandising, advertising and modernization.

In the smaller companies, on the other hand, there appears to be an unreserved tendency to favor expansion of sales through the building of new stations. But in these companies, new stations do not generate as much intra-dealer competition or strain on overhead as in larger companies.

But even where the preference is for increased market participation through increased outlets, the trend has been toward buying out existing marketers rather than building new stations from scratch.

One illustration of this trend is Humble Oil & Refining Co.'s expansion into Arizona, by buying existing stations (PW—Aug.21'59,p 50). Only three years ago, Humble entered New Mexico by erecting its own outlets.

There is still a basic belief in many quarters that any market strategy that does not emphasize an expansion of sales is wrong—regardless of the possible boost in profit margins.

An executive of a market research agency that serves a large oil company account told PETROLEUM WEEK that his firm still favors the "saturation" approach in building new stations.

If you have only one large station in a town, he says, most motorists who live in another part of town will probably drive into more convenient outlets nearer home.

"And this is a strange time to start thinking about cutting back in sales," he adds, "when the pressure of over-

supply is forcing everybody to try to move as much product as he can." His views are echoed by many others.

In line with the revaluation of the market-share concept as a tool for guiding expansion strategy has come new thinking about market share as a means of forecasting future sales.

In the past, economists have used market share for determining a company's future sales by applying a market-share percentage to expected total sales in the market area. Although this approach may still be valuable for broad estimates, it often presents surprises that make closer estimates impossible.

As one general sales manager pointed out recently, gallonage figures shown in state government tax reports are a hodge-podge of the sales of small stations and large highway outlets, plus commercial accounts.

The factors that affect these different types of sales are varied, and sometimes unpredictable. The most volatile sales, of course, are the commercial accounts, where a company's share can be increased or lowered by as much as 1% of the total market with the gain or loss of one large commercial account.

Two other factors that introduce variation into market-share calculations are (1) The growth of private brands, and (2) the entrance into new markets of expanding oil companies.

One marketer, who at one time held close to 90% of the gasoline sales in one northeastern state, has watched this position decline steadily as new competition came in. But the cost of trying to maintain the former position in the market would be prohibitive, a spokesman points out.

Market share as a criterion for evaluating the performance of management is also receiving some heavy criticism these days.

"We have always informally used market share as a basis on which to judge management at some levels," says one oil company economist. "But we're trying desperately to get away from this because we should be looking primarily at profits."

"How efficient," he asks," is a manager who increases market share and at the same time loses money for his company? But how can you measure this loss if you don't know how much this market share is actually worth?"

In most companies, sales personnel are given quotas or goals, which are derived through an estimate of total sales in the market and the market share the company expects to receive.

But one general sales manager told PETROLEUM WEEK that he is aiming toward the day when small organizational units can be placed on a profit-and-loss basis, rather than on a sales basis, as they are now.

"The optimum refinement," he says "would be to place each unit on a percentage-return basis," where the profit produced by the unit would be compared with the total investment in his area.

Although it's a long way away, such a refinement is being made more and more possible today, he notes, by the introduction of electronic accounting machines.

But when an attempt is made to compare profits made in one sector of a company's marketing setup with those achieved elsewhere, one economist points out, the problem of allocating supply costs and overhead services among marketing units is encountered.

This problem is being complicated, reports one marketing executive, by the use of some outlets as promotional stations.

These tend to boost the sales of company stations farther along the highways, although they themselves are not profitable.

What's New / IN MARKETING

It is not illegal for suppliers to solicit and obtain commercial accounts by selling gasoline at prices lower than those they charge gasoline wholesalers, in the opinion of Earl W. Kintner, chairman of the Federal Trade Commission.

In answer to a letter from Wright Patman (D., Tex.), chairman of the House Small Business Committee, Kintner said, "Although jobbers may suffer losses by virtue of their foreclosure from commercial-account business, such losses are not attributable to any competitive advantage conferred upon consumer accounts as a result of the differential in price, since the two classes of customers do not actually compete with each other."

Patman had written Kintner about a complaint from a Texas jobber over a commercial account.

•

Texaco Inc. is moving fast to regain the distinction of being the only oil company to market in every state.

Until Hawaii entered the union last summer, Texaco had held this title. To regain it, the company will soon break ground for a $500,000 ocean terminal to handle bulk storage for product marketing in Hawaii.

Last week Texaco announced that it is purchasing a 12-acre site for the terminal in the Barber's Point area, located near Honolulu.

•

Oriental Refining Co. has announced that it will appeal last week's dismissal of its injunction suit against 19 oil companies marketing in Colorado.

Oriental had sought to stop major suppliers from selling at "unreasonably low prices." But last week Judge Edward J. Keating granted a defense motion for dismissal on the ground that Colorado's Unfair Practices Act of 1937, on which the injunction suit is based, is "vague and indefinite" and, therefore, unconstitutional.

Max P. Zall, counsel for Oriental, says the company will seek action in a federal court, as well as in the Colorado Supreme Court.

•

Divorcement would mean that "every wholesaler . . . would have to sell his stations and fee-owned property, and get rid of his service station leases," Stanley D. Breitweiser, executive vice-president of DX Sunray Oil Co., told the Nebraska Petroleum Marketers last week.

On the previous day, the Nebraska jobbers had voted in favor of divorcing marketing from the rest of the oil industry.

•

Some bitter reaction is expected to the contracts awarded last week by the state of Oklahoma, which require government employees to purchase gasoline and oil only at certain stations, and at cut rates.

In accordance with the contracts, employees must buy petroleum products for government vehicles at stations of Sinclair Refining Co., Quality Oil Co., or Knox Industries, Inc. The contracts specify prices ranging from 2¢ to 6¢ below "normal."

In the past, government employees were permitted to buy gasoline and oil wherever they pleased.

Venezuela Warned It's in Tough Spot

CARACAS—The highest ranking Venezuelan-born oil executive has warned the country that its oil faces the "most difficult competitive situation in its history."

The blunt statement was made by Dr. Siro Vazquez, a Venezuelan, and former director of Creole Petroleum, who was recently promoted to world production coordinator for Standard Oil Co. (N.J.) in New York.

He returned to Caracas to address the third annual regional meeting of AIME's Society of Petroleum Engineers, where he outlined Venezuela's declining competitive position in a "serious" world oversupply position.

Jersey Standard's Dr. Siro Vazquez stressed that world oil supplies, both actual and potential, are growing at "unprecedented" rates.

A "profound change" in the past decade, he explained, has converted the petroleum industry from a "producer's paradise" in a seller's market to a highly competitive buyer's market.

Venezuelan oil in the past obtained and retained its historical markets "because it has had certain economic and geographic advantages, and because it has provided competitively attractive profit incentives," Vazquez said.

Due to changes in Middle East posted prices and freight rates, Venezuelan crude has already lost some of the competitive advantages it previously enjoyed through proximity to markets, Vazquez said.

To illustrate, he compared typical large-volume Venezuelan and Middle East crudes in seven key markets in 1950 and in 1959. One is Tia Juana Medium (26-gravity), of which Creole produces over 300,000 b/d. The other is 32-gravity Kuwait crude, which is being produced at the rate of about 1.4-million b/d.

In 1950, Tia Juana crude was posted at $2.30 a bbl., and Kuwait at $1.75.

In 1959, Tia Juana was still $2.30 a bbl., but Kuwait had dropped to $1.67.

Since Venezuela is closer than the Persian Gulf to most European and Western Hemisphere markets, lower freight rates tend to work against Venezuelan crudes in these markets. And tanker rates also declined over this period—from a basic rate of USMC—39% in 1950 to USMC—51% in 1959, Vazquez said.

As a result, there was a marked decline in the advantage of the Venezuelan over the Middle East crude, and a marked increase in its disadvantage. Vazquez cited the following specific figures (in cents per bbl., allowing for quality, freight, and posted price). Plus signs indicate a price advantage for Venezuelan crude; minus signs a disadvantage.

Unloading Port	*1950*	*1959*
Los Angeles	+17¢	— 8¢
New York	+11	—13
Montreal	0	—22
Rio de Janeiro	— 2	—22
Buenos Aires	—15	—32
Southampton	—18	—34
Genoa/Naples	—47	—56

Venezuela's share of the European market—fastest-growing in the free world—has dropped from 25% of demand in 1950 to 15% in 1958 due to increasing inroads from Middle East crude, Vazquez said.

Since Europe's demand has been increasing at about 8% annually, the absolute volume of its imports from Venezuela has been increasing, from 318,000 b/d in 1950 to 510,000 b/d in 1958, including crude and products from the West Indies.

The picture is changing, however, Vazquez warned. Heretofore the desirable qualities of some specialty crudes have been Venezuela's main strength in the European market. Further, Europe has been importing large quantities of products, particularly fuel oil, due to insufficient refining facilities.

Now, other "vast" sources of oil are exerting tremendous pressure for a position there, and many local refineries have been built.

Europe is the "first priority market" for the new and large North African supplies, low-cost Middle East oil, and growing Russian exports, Vazquez said. "If Venezuela is successful in retaining a position there, it will be under the most difficult competitive conditions," he warned.

Oil Minister Brushes Off Warning

CARACAS—"It depends on the point of view," said Oil Minister Juan Perez Alfonzo, just "how difficult" the situation is for Venezuelan oil in world oversupply conditions.

Commenting last week on the speech by Jersey Standard's Siro Vazquez, the Minister of Mines & Hydrocarbons drew a contrast between the interests of private operators and those of Venezuela as a producing nation.

The situation is "critical," the Minister said—but only "from the viewpoint of the producing company with excess capacity."

Venezuela is not under the same pressure as private companies to increase production rapidly, he added.

"It is hard to say if a crisis of overproduction is the most important. Unused productive capacity can also be said to be the most important."

"Immediate utilization does not interest the country as much as it does a private operator," Perez Alfonzo said.

Explaining this view, the minister continued: "All the petroleum that the country sells yields an income. Consequently, the possibility of selling more, or less, depends also on the possibility of utilizing this income.

"In dealing with an exhaustible commodity like petroleum, it is necessary to determine the time when the income that results from increased production can be used most effectively. Unused potential is potential that will be used sooner or later."

A private operator, Perez Alfonzo observed, might want a 20% production increase, whereas he considers Venezuela's estimated 5% increase this year as "normal and satisfactory."

He predicted another moderate increase in 1960, adding that his forecast is based on company production programs rather than on a statistical analysis of markets. He reiterated his statement made to Petroleum Week (PW—Oct.16 '59,p24) that Venezuela needs production increases of only 4% to 6% annually.

Venezuela Export Pattern Has Changed

To	1950 Thousands of b/d	1950 % of country demand	1958 Thousands of b/d	1958 % of country demand	1958 % of Venezuelan Production
United States	613	9%	1,050	12%	40%
Canada	106	29	220	30	9
Central and South America	254	38	550	46	21
Europe	318	25	510	15	20
Africa and Other	70	7	120	6	4
Total	**1,361**	**13**	**2,450**	**15**	**94**

Note: Figures include Venezuelan crude refined in the West Indies.

North Africa, Vazquez noted, is rapidly developing into a major oil producing area:

• The Algerian Sahara, the French say, will be producing 440,000 b/d by 1961 and 1-million b/d by 1965. This means that France may become an oil exporter.

• In Libya, "several" of the ten discoveries made to date are of "vast magnitude" and potentiality, Vazquez said. In the near future, he predicted, Libya will become an "extremely important" export supply source for nearby Europe.

Increasing oil exports from Russia and its satellites are another factor. They're expected to reach 280,000 b/d this year, with present 2.5-million b/d producing capacity all utilized. What they will be in 1966—when capacity is programmed to increase to 5-million b/d—is difficult to predict, "but they may well be substantial," the Jersey Standard executive said.

Vazquez also sees intensifying competition ahead in Venezuela's Western Hemisphere markets, which absorbed 70% of its 1958 production.

• In the U.S., Venezuela's No. 1 oil market, Vazquez said competition with oil from other lands will "certainly be intense."

In view of estimates that U.S. demand will grow to 14-million b/d by 1975, Vazquez feels the prospective volume of imports is "large and attractive," though he expects continuing pressures for import controls.

• In Central and South America Venezuela's second-biggest market, Middle East oil—and, to a lesser extent, Russian oil—have already made inroads. "Based on price and other incentives," Vazquez said, "this competition will tend to grow." Also, he noted, the initial success of Argentina's all-out effort to become self-sufficient in oil indicates that the goal may be attained in a few years, thus eliminating what has previously been a good export market for Venezuela.

• In Canada, Venezuela's most immediate problem is competition from Middle East oil. On the basis of costs and prices, this has already displaced some previous imports from Venezuela.

"The factors creating this competitive situation are tangible realities, not elusive shadows," Vazquez said.

Current production figures do not show the "real" supply situation that's creating the mounting pressures.

Competition for new reserves in the older oil areas—such as Venezuela, the U.S., and Canada—has continued to grow. At the same time, it has been increasing at a more intensive pace in areas like Europe, Africa, the Middle East, the Far East, and Argentina.

Vazquez cited figures to show that the free world's spare producing capacity increased by 164% in the 1953-1958 period, and is now equal to 32% of demand. In 1953 it was 2-million b/d (almost all in the U.S.), or about 16% of demand. At the end of 1958 it was 5,280,000 b/d.

But these figures—big as they are—show only the actual, immediately available supplies, Vazquez emphasized.

Large "potential" supplies can be made available—particularly in the Middle East and North Africa—"by drilling a few wells, and with minimum investments."

Further, he noted, potential production from new areas opened to concessions in the past few years hasn't yet found its way into world markets. "It is probable," he said, that some of these will eventually offer "extreme" competition to older established exporting countries.

Thus, though free world demand continues to grow by 800,000 b/d annually, Vazquez noted, all producing areas and enterprises are competing strongly for a share.

Ohio Oil Seeks Overseas Markets

Ohio Oil is pursuing possibilities for sales, exchanges, and "other arrangements" which will permit marketing of Libyan crude west of Suez, according to president J. C. Donnell II (PW—Oct.23'59,p13).

A company survey found that Libyan crude has a "geographic advantage and quality disadvantage" in European markets, which require a heavier-gravity oil.

Transport surveys are already under way because of the "indicated potential production" of Ohio's Sirte basin finds, 75 mi. from the coast. Actual construction will not start for a year.

Ohio is banking on foreign oil reserves, present and potential, in its new role as an "emerging international oil company," Donnell said.

The company, in partnership with other firms, is currently exploring in several countries. It's also bidding for its first oil rights in Argentina and the Spanish Sahara, Donnell said. He gave the following highlights of present operations:

• **In Libya,** operations are being stepped up at a lively pace: From four seismic crews active at the first of the year, Ohio's Oasis Oil, operator for the Conorada group, now has ten in the field, with an eleventh on its way. The number of operating rigs will reach 11 by the end of the year.

In addition to its substantial oil discoveries, Donnell said that Oasis has found "an even wider area" of natural gas reserves in the Sirte basin.

• **In Tunisia,** a seismic crew is in operation on part of the 7-million-acre concession held by the Conorada group.

• **In Somalia,** a fifth wildcat will be spudded shortly by Sinclair, operator for a group in which Ohio has 1/6 participation.

• **In Guatemala,** Ohio, operator for the Conorada group, is now drilling below 7,280 ft. toward a 14,000-ft. target in its initial wildcat, which found a show of oil at 10,006 ft., and was later whipstocked at 6,700 ft. because of corrosion problems.

• **In Venezuela's Gulf of Paria,** the first development well has been completed as a 300 b/d producer by Paria Operations, a group in which Ohio has 25% (PW—Sep.4'59,p42).

What's New / AROUND THE WORLD

Pure Oil to Build European Refinery?

Pure Oil Co. may be the next U.S. firm to move into refining and marketing in Europe.

The company last week declined comment on a report that it would build a refinery at Amsterdam. It is understood, however, that it is investigating several locations in Europe.

•

ARGENTINA—The Argentine state oil agency hopes to sell Australia part of a 5.6-million-bbl. gasoline surplus it estimates it will have in 1960. The first oil export deal in its history has just been concluded with Uruguay, which bought 63,000 bbl. of gasoline for about $250,000 (page 43).

•

ARGENTINA—A total of 119 bids from 15 different countries were submitted last week for supply of $19-million worth of drilling equipment to the state oil agency. The origins include: U.S. 17; Argentina 38; Germany 12; Austria and Italy 9; Japan 8; France 7; England 5; Holland 3; Belgium 2; and one each from Canada, Switzerland, Poland, Yugoslavia, and Czechoslovakia.

•

BRAZIL—An official Moscow-bound trade mission will try to sew up deals for Russian refining and oil development equipment in return for coffee and other commodities, the government confirmed last week. The seven-man mission will include the heads of both Petrobras and the National Petroleum Council and will be prepared to close any suitable deals offered.

•

MOROCCO—The 25,000 b/d Italian-Moroccan refinery slated by Italy's state-owned ENI will be completed by the end of 1962, at Mohammedia. The Atlantic Ocean port, 19 mi. from Casablanca, can handle 12,000-ton tankers now, or 40,000-ton vessels with offshore loading lines.

The $15-million plant will be operated by Samir, a refining company with 50% ENI and 50% Moroccan capital. Within a maximum of eight years, 80% of Samir's personnel must be Moroccans.

•

BOLIVIA—Exploratory drilling is slated by Shell and Standard of California, which have an agreement on joint exploration of their respective concessions in central Bolivia. The government announced Shell will start a series of tests early next year.

•

ISRAEL—Plans for the first export of Haifa-refined products to Europe are coming to a head (PW—Oct.2 '59,p34). The Finance Ministry last week confirmed negotiations with a foreign firm (not identified) for sale of 400,000 tons of products annually in various European countries.

•

IRAQ—Rumania will make a sales pitch on its oilfield equipment—including rigs—at its trade fair in Baghdad, slated for Nov. 13-Dec. 2 by its industrial export agency. A working model of a rig capable of drilling to 10,500 ft. will be featured.

•

JAMAICA—Time Petroleum, Kansas independent, has been granted a four-month option on oil rights for the entire island and territorial waters. The rights were previously held by the Canadian-owned Base Metals Mining Corp., and expired at the end of 1958. An Indiana Standard subsidiary drilled three dry holes under a farmout, withdrawing in early 1958.

•

LEBANON—Iraq Petroleum Co.'s growing interest in Lebanon as a terminal for its Kirkuk oil is underscored by appointment of a general manager with offices in Beirut.

The man tapped for the new post is Paul R. A. Ensor. He was formerly based in Qatar as general manager for the Persian Gulf, an IPC post second in importance only to Iraq.

•

LEBANON—Iraq Petroleum Co. plans to build a 30-in. pipeline running 20 mi. from the Syrian border to Tripoli. It's scheduled for completion next year as the lastest phase in IPC's Kirkuk-Mediterranean pipeline expansion program.

•

New oil output records by both Iraq and Iran in September were more than offset by cuts in Kuwait and Saudi Arabia. The total from key Middle East producing states thus slid from the near-record level of August, though Iran climbed 122,000 b/d to top 1-million b/d for the first time. The totals, in 000 b/d:

	Sept. '59	Sept. '58	Aug. '59
Kuwait	1,298.3	1,433.4	1,426.6
S. Arabia	1,055.8	1,080.0	1,096.6
Iran	1,005.0	904.0	883.0
Iraq	912.5	797.2	895.4
Qatar	181.1	174.0	171.5
Total	4,452.7	4,388.6	4,473.1
9-Mo. Avg.	4,371.8	4,071.0	

Wildcats in the News

PHILIPPINES—The first outpost to the recent oil find on the island of Cebu recovered oil at the rate of 200 b/d. Redeco, a private Philippine company said, the No. 1AX Reina Regente found more than 20 ft. of pay sand around 1,700 ft. The discovery well encountered a series of six sands between 1,133-277 ft.

NEUTRAL ZONE—Drilling will be resumed before the end of November in its offshore test, Japan's Arabian Oil Co. announced last week. The drilling platform, which sustained $780,000 damage in a recent blowout and fire, is under repair.

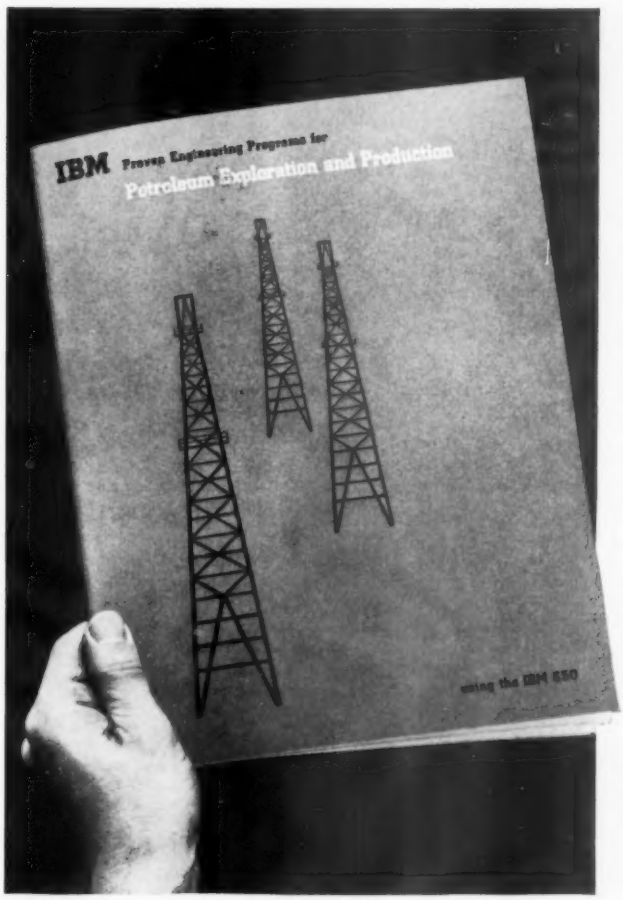
INDIA—Stanvac has abandoned its seventh unsuccessful test in the Indian part of the Bengal basin. The No. 1 Memari was bottomed at 12,490 ft.

SOMALIA—Sinclair is abandoning the fourth test on its 42.5-million-acre concession. No. 1 Merca, located in the southeastern corner of the country, was bottomed at about 12,000 ft. The rig will be skidded 40 mi. north to spud a test on a large seismic structure.

LIBYA—British Petroleum has spudded its first Cyrenaica wildcat. The 12,000-ft. test, BP's fourth in Libya, and its deepest to date, is 120 mi. southwest of Tobruk.

IBM EXPANDS ITS SERVICE TO THE PETROLEUM INDUSTRY–

21 Proven IBM 650 Programs for Exploration and Production



IBM offers for your use a package of 21 IBM 650 computer programs for Exploration and Production. These 21 programs make available to IBM 650 users years of valuable customer experience in electronic computing.

The programs have been carefully selected from many petroleum computer applications for their wide interest to engineers and geophysicists engaged in exploration and production. They are now available without cost, packaged and ready for your immediate use. The programs cover a wide range—from geophysical to research and productivity applications.

Typical programs from the geophysical series—

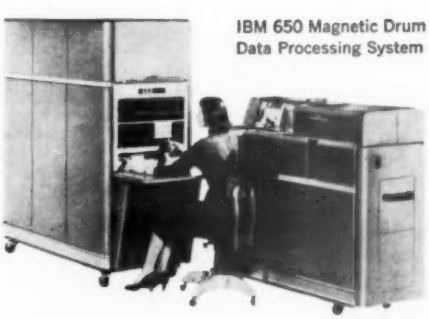
- Determination of a Linear Velocity Function
- Ray Trajectory Migration
- Simulated Seismogram from a Continuous Interval Velocity (CVL)
- Normal Move-Out Time ($\triangle t$) Chart
- Refraction Time-Distance Curve Computation
- Time Domain Filter
- Geological, Geophysical Mapping Routine
- Porosity from the Gamma Ray Log
- Residuals and Derivatives of Gravity

Send for new booklet describing all 21 programs in detail. Included is information on how these programs can be used in your own operations. Just fill out the coupon below.

The IBM Refinery Engineering Package offered last year is still available. If you missed any or all of the complete series of 14 programs, check the appropriate box on the coupon for full information.

BALANCED DATA PROCESSING

IBM



IBM 650 Magnetic Drum Data Processing System

Dept. 703
International Business Machines Corporation
112 E. Post Road, White Plains, N. Y.

☐ Please send me the free booklet, "IBM Proven Engineering Programs for Petroleum Exploration and Production."

☐ Please send information on the IBM Refinery Engineering Package of 14 programs.

Name _____

Position _____

Company _____

Address _____

City _____ Zone _____ State _____

E. J. Davis J. Sutherlin

EARL J. DAVIS has been named manager of the Houston district of the Dowell Division of Dow Chemical Co., and **JACK SUTHERLIN** succeeds him as district manager at Denver. Davis succeeds **Jack Talbot**, who has been transferred to the company's industrial operations in Cleveland. Sutherlin was formerly manager of the Wichita Falls district, which has now been split up and placed under the Oklahoma City and Midland districts. **W. B. (Silver) Harley** continues to be area manager of the former eastern area of the Wichita Falls district, which now includes the Healdton (Okla.) station. **H. D. (Doug) Woodard** continues as sales manager for that area, and **Eddie Ernst**, formerly district engineer for Wichita Falls, becomes engineer for the eastern area. **F. J. (Ted) Green**, formerly Abilene area sales manager, will head the western area sales of the former Wichita Falls district.

RAY V. LONG moves up to executive vice-president of Vapor Recovery Systems Co., Compton, Calif. He was most recently vice-president and sales manager. Long organized the Houston factory sales office and managed the Gulf Coast operations for several years, before transferring back to the Compton office as West Coast sales manager. **Arnold A. Wilcox** becomes active in the company as vice-president of manufacturing. He formerly served the company as a management consultant. **H. Dickinson** moves up to vice-president of engineering. Dickinson, with the company for eight years, organized its electromechanical division. He was most recently chief engineer of that division.

W. H. ESSER has been named vice-president of Auto Crane Co., Tulsa. He was formerly transportation manager for Shell Oil Co. Esser will be in charge of coordinating the production, marketing, and distribution of the company's line of battery-powered hoists.

ALFRED M. BOEHM has been appointed manager of power engine sales, and **HOWARD C. BARTEN** manager of engine compressor sales, for Worthington Corp., at its Buffalo (N.Y.) compressor and engine division. Both sales sections were formerly under the engine sales department, which was dissolved on Sept. 1. The sales reorganization took place following the retirement of **Willard E. Wechter**, formerly manager of the engine sales department. Boehm has been manager of the eastern engine division with offices in New York, since 1950, and Barten has been manager of the gas transmission section of the engine sales department, at Buffalo, since 1955.

CHARLES R. DYGERT and **KENT L. LEWIS** have been appointed to the newly created marketing research, product, and sales planning component of the marketing section of General Electric Co.'s gas turbine department. Dygert will be specialist, product planning, and Lewis will be specialist, advertising and sales promotion.

THREE SALES ENGINEERS have joined the staff of V-Line Mfg. Co., Liberal, Kan. **M. L. Barringer** is the new sales engineer for the Mid-Continent area, in Liberal, and **C. F. Foster** is the new production and service engineer for the Oklahoma-Gulf Coast area, in Arkansas City, Kan. **Gene Schuler** becomes service engineer for the West Texas and New Mexico area. He will remain in Odessa, where he was formerly associated with Husky Guns, Inc. Barringer was formerly with Oilfield Enterprises, Inc., and Panhandle Eastern Pipeline Co. both in Kansas. Foster has been in the production department of Skelly Oil Co., and more recently was a production consultant in eastern Kansas.

JOHN W. DAVIS returns to New York as export manager of Mid-Continent Supply Co. He was most recently Venezuelan manager for the company in Caracas. Davis, with Mid-Continent since 1947, was located in Tulsa before transferring to New York as sales engineer. He later became assistant export manager there.

J. W. Davis P. V. Edwards

P. V. EDWARDS becomes regional sales manager, Canada, for Jones & Laughlin Supply Division, with offices in Calgary. **S. D. Martin**, formerly a salesman at Calgary, succeeds him as district sales manager at Edmonton. At the same time, **R. J. Phibbs** moves up from salesman to city sales manager at Calgary.

WALLY HOLMBERG has been appointed to the newly created position of controller for Larkin Packer Co., with offices in Waxahachie, Tex. Holmberg, with the company since 1938, became supervisor of the accounting department in 1947. He has been public relations supervisor since 1957. **E. L. Meredith** has been named manager of Larkin's warehouse in Tulsa. He succeeds **Leo Cragg**, who is retiring.

BERNARD C. STINNER has been appointed insurance manager of National Supply Co., Pittsburgh. He will be responsible for the administration of all company insurance programs. For the past year, he has been assigned to the controller's office working on special reports and studies.

W. H. Siems F. W. Ayers

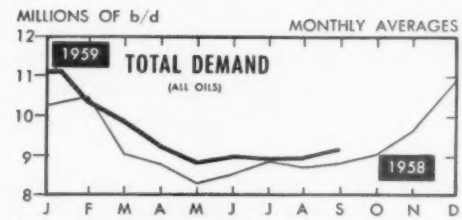
W. H. SIEMS moves up to vice-president in charge of sales for Hughes Tool Co., and **FRED W. AYERS** to the newly created position of vice-chairman. Siems, formerly general sales manager, succeeds **Maynard E. Montrose**, who has become senior vice-president and general manager. Ayers recently retired from the positions now held by Montrose. The three executives are located at Hughes' headquarters in Houston.

CALVIN D. SAUNDERS moves up to the newly created position of assistant laboratory manager of Halliburton Oil Well Cementing Co.'s chemical research and development laboratories, which have recently been reorganized. The laboratory is part of the company's technical center at its Duncan (Okla.) headquarters. Saunders was formerly group leader of the fracturing section. **W. T. Malone**, formerly a member of the fracturing section, succeeds Saunders as group leader. **Wayne Hower**, who has been organic section leader, has been promoted to the newly created position of research associate. He will perform fundamental research on chemical problems and developments related to Halliburton's oil field services. the organic section, formerly supervised by Hower, has been divided into two new sections. **John Knox** will head the chemical well stimulation section, and **Joe Ramos** will head the water and sand control section.

JAMES S. ROSE is the new personnel director of the chemical products division of Chemetron Corp., with offices in Louisville, Ky. He will continue to manage the personnel department of Girdler Catalysts, a unit of the chemical products division, and will also coordinate the personnel activities of the division's other units.

PETROLEUM WEEK'S

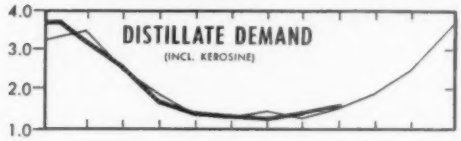
Fingertip Figures



Figures for period ended October 23, except as noted

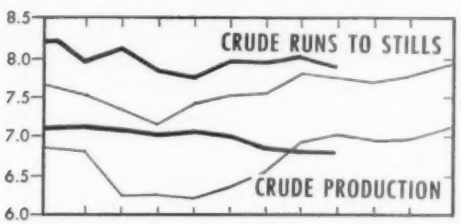
TOTAL DEMAND

Latest 4-week average	9.054
Year ago	9.174



DISTILLATE DEMAND

Latest 4-week average	1.759
Year ago	1.722

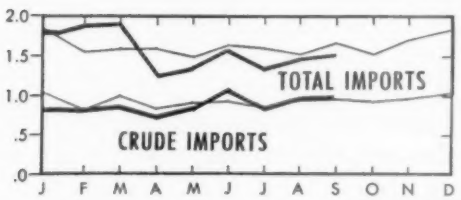


RUNS TO STILLS

Latest week	7.662
Previous week	7.759
Year ago	7.753

CRUDE PRODUCTION

Latest week	6.875
Previous week	6.839
Year ago	6.919

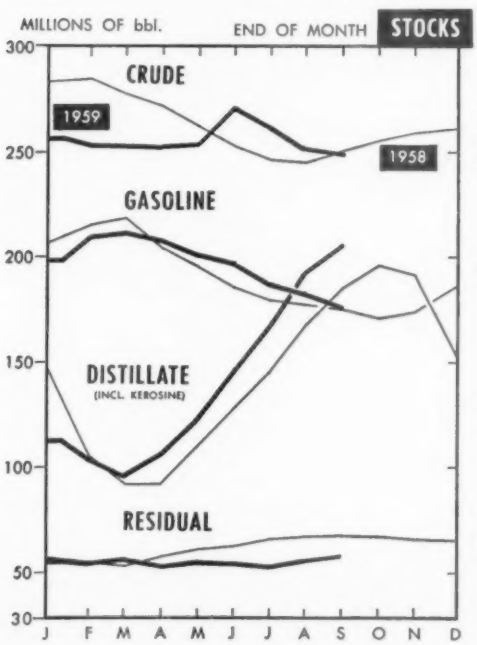


TOTAL IMPORTS

Latest week	1.578
Previous week	1.450
Year ago	1.426

CRUDE IMPORTS

Latest week	.999
Previous week	.949
Year ago	.782



CRUDE STOCKS

Week-ended 10-17	251.8
Previous week	250.9
Year ago	254.0

GASOLINE

Latest week	177.8
Previous week	178.7
Year ago	168.4

DISTILLATES

Latest week	214.6
Previous week	213.4
Year ago	195.8

RESIDUAL

Latest week	58.7
Previous week	59.6
Year ago	67.9

The industry has an encouraging supply-demand forecast to study this week: It predicts 1960 gains of 3.3% in total demand and 6.8% in domestic output of petroleum liquids.

The forecast is by the Supply & Demand Committee of the Independent Petroleum Assn. of America (page 11). In past years, it has proven to be as good as any available, particularly since it represents the composite view of several top economists.

The unusually bright outlook predicted for domestic production, though, contains a threat to the industry's future.

And that is the threat of another potential oversupply year.

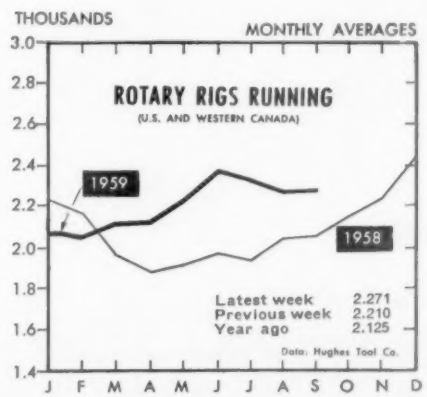
The nature of the forecast—regardless of how accurate it may prove to be—is not the kind of platitude needed by an industry still plagued with surplus inventories.

The forecast is that required domestic production of crude and gas liquids in the first quarter of 1960 will average 8,453,000 b/d, a jump of 592,000 b/d over the expected output in the last three months of 1959.

And for the remaining quarters of 1960, the estimated required domestic output runs at a fairly steady level—dropping less than 100,000 b/d in the second quarter, moving up to 8,433,000 b/d in the third quarter, and rising to 8.5-million b/d in the last three months.

The forecast points to a possible surplus of crude in the second and third quarters that may well lead to another year of excessive refinery runs, oversupply of products, and weak prices.

In short, the "required" production estimates may be a red flag to wave in front of an industry that typically operates like a bull in a china shop.



The Market Trend

Grasshoppers and Ants and Residual Fuel

Remember the fable about the grasshopper and the ant? The grasshopper whistled all summer. The ant was industrious, and stored up supplies against the cold.

You may see a modern version of the grasshopper-ant saga in East Coast heavy fuel this winter. For months now, the industry has been of two minds whether future supplies of No. 6 oil would be long or short (PW—Aug.28'59,p48).

Last week the Chase Manhattan Bank warned of a possible winter shortage of residual. Probable residual supplies for the first quarter of 1960, Chase said, look to be only about 75% of probable demand.

Shortage talk from Chase, of course, is fighting talk in Washington. For the prickly problem of heavy-oil supply no longer is solely an industry concern. The government, through the workings of the Oil Import Administration, is the final arbiter.

Washington quite obviously must feel that the present residual quotas are adequate. Otherwise, the government would have set the quotas higher. For the last six months of 1959, OIA plans to allow importation of 66.8-million bbl. of residual into Districts 1-4. For the same period in 1958, 65.1-million bbl. actually came in.

Many oil men feel, however, that the government has taken a grasshopper attitude on fuel oil for the coming winter. Present quotas, they say, are unrealistically low. Privately, individual companies say they each expect to be short of residual in the first quarter anywhere from 10,000 to 50,000 b/d.

And oil men themselves may be on a grasshopper kick when they persist in cutting residual prices in the face of a tight market. If supplies are so tight, the government could ask, why all the pressure on the prices?

One thing is sure: The industry is not dragging its feet about bringing in the residual the government allows. In July, August, and September, it imported almost 40% of the 66.8-million bbl. allocated for the July-December period. In other years (in free markets) importers never brought in more than 37% of their last-half total during the third quarter; in 1958 they brought in only 32.5%.

The government can't reasonably ask domestic refiners to run $3.00 crude and maximize yields of $2.00 bunker oil. Fortunately, the long steel strike (losing about 100,000 b/d of No. 6 sales) threw about 9-million bbl. of low-sulfur residual into the general fund.

So, there's your problem: Who's whistling and who's working?

Canal Tender for Gasoline:

The Panama Canal Co. is in the market for a mixed cargo of premium and regular gasoline. The tender, coming at the beginning of winter, often brings to light some interesting bids.

Caribbean and Gulf Coast refiners probably will take a shot at this business. Bids will be opened in the company's New York office on Nov. 6.

'Gas' to Uruguay:

Argentina is becoming an "exporter" of oil products. Last week, first shipments were started against a sale of 63,000 bbl. of gasoline to Uruguay (page 40).

The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All prices as of October 26

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, cargoes
- Gasoline, 98 oct prem 12.25-13
- Gasoline, 92 oct reg 11-11.5
- Kerosine 8.625-10.375
- Heating oil, No. 2 ..... 8.125-9.875
- Gas oil, 48-52 d.i. 8.375-10.125
- Fuel oil, bunker "C" $2.00-2.10

Caribbean, cargoes
- Avgas, Grade 100/130 ..... 15.25
- Gasoline, 93 oct research prem 11.25
- Gasoline, 87 oct research reg 10.375
- Gasoline, 79 oct research 9.625
- Gasoline, 70-72 oct motor method 9.5
- Kerosine 8.625-8.875
- Heating oil, No. 2 ..... 8.125
- Gas oil, 48-52, d.i. 8.375
- Fuel oil, bunker "C" $2.00

New York Harbor, barges
- Kerosine 9.35-9.6
- Heating oil, No. 2 ..... 8.85-9.1
- Fuel oil, No. 6 ..... $2.37-2.47

Okla-Group 3, northern shpt., bulk
- Gasoline, 91 oct reg 11-11.75
- Kerosine 9.5-9.75
- Heating oil, No. 2 ..... 8.25-8.5
- Fuel oil, No. 6 ..... $1.40-1.80

Chicago, bulk
- Gasoline, 91 oct reg 11.5-11.75
- Heating oil, No. 2 ..... 9.125-10.85
- Fuel oil, No. 6 high sulfur 7.4-7.5

Los Angeles, rack
- Gasoline, 88 oct reg 12.15-12.65
- Diesel fuel, PS 200 ..... 8.5-11.25
- Light fuel, PS 300 ..... $2.80
- Heavy fuel, PS 400 ..... $2.15-2.35

Natural Gasoline, Grade 26-70
- FOB Group 3 ..... 4.5
- FOB Breckenridge, Tex 4

LP-Gas
- Propane, Oklahoma (Group 3) 4.5-5
- Propane, Baton Rouge 5.125-5.875

Pennsylvania Lubes
- Bright stock, 25 p.t. 23
- 200 vis. neutral 25 p.t. 25

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent, 95 v.i. 24-25
- Neutral, solvent 200-210 vis 20.5-21.5

Gulf Coast Lubes
- Bright stock, solvent 95 v.i. 24
- Neutral, solvent, 200 vis 20.5

Eastern Hemisphere

Singapore (Pulau Bukom), cargoes
- Avgas, grade 100/130 ..... 16.5
- Gasoline, 79 oct research 10
- Kerosine 10.125
- Gas oil, 48 d.i. minimum 9.625

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9 ..... $2.62-2.97
- North Dakota, 36.0-36.9 ..... 2.62-2.87
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9 ..... 3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9 ..... 2.92-3.22
  - West Texas, sweet, 36.0-36.9 ..... 3.00
  - West Texas, N. M., inter., 36.0-36.9 ..... 2.93
  - West Texas, N. M., sour, 32.0-32.9 ..... 2.71
  - East Texas, flat 3.05-3.25
  - Mirando, 28.0-28.9 ..... 3.31
- Illinois Basin, flat 3.00
- Pennsylvania Grade, Bradford dist., flat 4.40
- California, Signal Hill, 21.0-21.9 ..... 2.22-2.32†
- North Louisiana-Arkansas, 36.0-36.9 ..... 2.77-3.02
- Wyoming, sweet, 36.0-36.9 ..... 2.85-2.90
- Wyoming, sour, 32.0-32.9 ..... 2.63-2.71

Canada (flat prices, at the well)
- Pembina (Alta.) $2.38
- Leduc-Woodbend (Alta.) 2.53
- Redwater (Alta.) 2.42
- Steelman A (Sask.) 2.435
- Virden (Man.) 2.31

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 47.0-47.9, Tucupido $3.34
- San Joaquin, 41.0-41.9, Puerto la Cruz 3.10
- Oficina, 35.0-35.9, Puerto la Cruz 2.78-2.80
- Tia Juana, Medium, 26.0-26.9, Amuay 2.30
- Bachaquero, flat, Las Piedras 1.73-1.88
- Tarra, 38.0-38.9, San Lorenzo 2.83
- Lagunillas Heavy, flat, Cardon 2.10

†*Differential per deg. of grav. varies.*

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabia, 34.0-34.9, Ras Tanura $1.90
- Safaniya, 27.0-27.9, Ras Tanura 1.50
- Iran, 34.0-34.9, Bandar Mashur 1.86
- Iran, 34.0-34.9, Abadan 1.81
- Iraq, 35.0-35.9, Fao 1.80
- Kuwait, 31.0-31.9, Mina-al-Ahmadi 1.67
- Qatar, 41.0-41.9, Umm Said 2.05
- Neutral Zone, Burgham, 23.5-24.4, Mina Saud 1.51
- N. Zone, Eocene-Ratawi, 20.5-21.4, Mina Saud 1.38

Middle East, Eastern Mediterranean
- Arabian, 34.0-34.9, Sidon $2.27
- Iraqi, 36.0-36.9, Tripoli, Banias 2.31

Far East, Cargoes FOB Lutong, Sarawak
- Seria Light, flat $2.57

KEY TANKER RATES

(Last paid, per long ton, single voyage)

U.S. Gulf-New York, clean	(USMC—22½%)	$2.21
U.S. Gulf-New York, dirty	(USMC—32½%)	$1.92
NWI-USNH, dirty	(USMC—50%)	$1.38
NWI-UK/Cont., dirty	(Scale—52½%)	15/5*
Persian Gulf-UK/Cont., dirty	(Scale—65%)	23/3*
Persian Gulf-USNH, dirty	(USMC—75%)	$3.26

**Sterling.*

ADVERTISERS IN THIS ISSUE

Aero Service Corp.	29
Atlantic Refining Co.	21
Bank of Montreal	7
Black, Sivalls & Bryson, Inc. Oilfield Equip. Div.	10
Bryson-Jackson Tools, Inc.	Cover 3
Dowell	4
Essso Research & Engineering Corp.	33
Hammond Iron Works	19
Houdry Process Corp.	32
Hudson Engineering Corp.	26
International Business Machines	41
Magnet Cove Barium Corp.	8-9
Mid-Continent Supply Co.	2
Reed Roller Bit Co.	24-25
Republic Nat'l Bank of Dallas	16
Sinclair Oil Corp.	1
Southwest Industries Inc.	Cover 2
Sun Oil Co.	23
Timken Roller Bearing Co.	Cover 4

Classified Advertising
F. J. Eberle, Business Mgr.

Employment Opportunities	57
Equipment Used or Surplus New For Sale	47

PETROLEUM WEEK REPRESENTATIVES

Atlanta 3 — Douglas C. Billian, 1301 Rhodes-Haverty Bldg., Jackson 3-6951

Boston 16 — Donald R. Thompson, 350 Park Square Bldg., Hubbard 7-7160

Chicago 11 — Edward A. Callahan Jr., H. Sherman Davis, 520 N. Michigan Avenue, Mohawk 4-5800

Cleveland 15 — J. E. MacArthur, 1164 Illuminating Bldg., 55 Public Square, Superior 1-7000

Denver 2 — J. W. Patten, Mile High Center, 1740 Broadway, Alpine 5-2981

Houston 25 — D. O. Hanson, 724 Prudential Bldg., Jackson 6-1281

Los Angeles 17 — Peter S. Carberry, 1125 W. Sixth St., Huntley 2-5450

New York 36 — Donald R. Thompson, 500 Fifth Ave., Oxford 5-5959

Philadelphia 3 — W. A. Potter, 6 Penn Center Plaza, Locust 8-4330

Pittsburgh 22 — J. E. MacArthur, Room 1111, Oliver Bldg., Express 1-1314

San Francisco 4 — William C. Woolston, 68 Post Street, Douglas 2-4600

Tulsa 3 — J. A. Hartley, 909 Enterprise Bldg., 522 South Boston, Gibson 7-5594

England, London E. C. 4 — E. E. Schirmer, McGraw-Hill Co., Ltd., 95 Farrington St.

DEPT/Personals

DON H. MILLER is the new president of Skelly Oil Co., Tulsa. He succeeds **John S. Freeman,** who has resigned. Miller has been general manager of marketing at Skelly's headquarters in Kansas City, Mo., for the past two years. Before that, he was assistant to the marketing vice-president. In his new position, he will divide his time between the Tulsa and Kansas City offices.

D. H. Miller

H. C. Sheperd

HOWARD C. SHEPERD has been elected a director of Sinclair Oil Corp., New York. He is chairman of the First National City Bank of New York. Sheperd succeeds **William Gage Brady, Jr.,** a former chairman of the National City Bank, who has resigned his Sinclair directorship.

WILLIAM H. PRICE has been elected vice-president of Cities Service Petroleum, Inc., subsidiary of Cities Service Co. He was most recently staff executive in the subsidiary's manufacturing department. He will serve as assistant to **A. P. Frame,** senior vice-president of the parent company in charge of manufacturing, research, and petrochemicals. Price, with the Cities Service system since 1924, has been associated with the construction and operation of Cities Service refineries in the United States and Canada. He is a director of Cities Service Refining Corp., Cities Service Research & Development Co., Petroleum Chemicals, Inc., and Cities Service Refinery (Canada), Inc.

HARLEY C. STEVENS has opened offices in San Francisco for consultation on international oil and other business in the Middle East and Europe. He was formerly vice-president of American Independent Oil Co., San Francisco.

JEROL SONOSKY has joined the petroleum division of the California Bank, Los Angeles. He has been a petroleum engineer for Shell Oil Co. and Superior Oil Co.

DAVID F. EDWARDS has been invited to join Humble Oil & Refining Co. (Del.) as employee relations manager, at Houston. Edwards is presently manager of Esso Standard Oil Co.'s Bayonne (N. J.) refinery. His appointment will be effective upon approval of the proposed Humble-Jersey merger at special stockholders' meetings of Humble Oil & Refining Co., Texas, and Standard Oil Co. (N. J.).

D. F. Edwards

W. H. Miller

WILLIAM H. MILLER becomes general manager of sales and a director of Standard Oil Co. (Ind.), Chicago. He succeeds **Alton C. Sailstad,** who has resigned from both positions. Miller has been assistant manager of marketing since 1957.

CARROLL J. BROWN becomes executive development advisor of Standard-Vacuum Oil Co., with offices in White Plains, N. Y. He succeeds **Lawrence C. Hamlin,** who was recently appointed regional vice-president in charge of the company's Far East operations. For the past five years, Brown has been Stanvac's full-time organization consultant. In this capacity, he has participated in management studies in

R. O. Goodykoontz

J. P. Warner

F. P. Hagaman

ROBERT O. GOODYKOONTZ, J. PRINCE WARNER, and **FREDERICK P. HAGAMAN** are new directors of Esso Standard Oil Co., New York. Goodykoontz, general manager of marketing, and Warner, general manager of manufacturing, were elected vice-presidents in August. Hagaman has been controller since 1948.

Indonesia and Africa, and has helped shape the company's executive development program.

E. D. HILLBACK is the new vice-president and general manager of California Oil Co.'s lubricants division, in Perth Amboy, N. J. He succeeds **C. J. Moody,** who transfers to San Francisco. Moody has headed lubricant sales in the east for California Oil and its parent, Standard Oil Co. of California, since 1938. Hillback, who was formerly assistant to the president of California Oil, has served as assistant vice-president of the lubricants division for the past few months.

E. D. Hillback

M. McDonald

MARSHALL McDONALD has become vice-president and financial coordinator for Sinclair Oil & Gas Co., Tulsa. Since 1955, he has been president of Investment Co., Houston; vice-president of Colombian Development Co., which has drilling activities in Colombia, S.A.; and president of Universal International Insurance Co.

JOHN C. MEEKER moves up to exploration superintendent of Pan American Petroleum Corp.'s Canadian division exploration department, at Calgary. He succeeds **Alvin R. Winzeler,** who was transferred to a similar position in Pan Am's Texas-Louisiana Gulf Coast division, in Houston. **Michael R. Waller,** formerly Calgary district geologist, succeeds Meeker as Canadian division geologist. **Howard W. Schwartz,** formerly area geologist in the Calgary district, succeeds Waller there. At the same time, **John W. Phenicie** was promoted to assistant division production superintendent of Pan Am's Rocky Mountain division producing department, at Casper, Wyo., and **Donald H. Falkingham** succeeds him as division engineer there. Phenicie succeeds **J. C. McCarthy,** who transferred with the same title to Pan Am's Texas-Louisiana Gulf Coast division.

JACK TIGHE, former manager of the Detroit Tigers, has been named manager of Naph-Sol Refining Co.'s service station division, with offices in Muskegon, Mich. Tighe joined Naph-Sol last January as public relations manager.

ROBERT W. GERHARD has been named director of economic research for Societe Civile Amoco, foreign market study group of Standard Oil Co. (Ind.), in Paris. He was formerly director of the distribution economic coordination division in Indiana's supply and transportation department. That division will be reorganized, with **Donald S. Warning** as director of marketing research.

J. A. GOLASINSKI moves up to manager of Shell Oil Co.'s Houston area gas department. Golasinski, in Shell's gas department for the past 22 years, was most recently superintendent of operations in Houston.

DR. FELIX ROSSI GUERRERO is the new petroleum counselor of the Venezuelan embassy in Ottawa, Canada. He has been chief of the world markets department in the Venezuelan Ministry of Mines & Hydrocarbons, in Caracas.

AHMED KAMEL EL BADRI is the new managing director and general manager of the United Arab Republic's General Petroleum Authority, succeeding the late **Salah Nessim.** El Bardi was formerly Egyptian undersecretary of industry.

TOM G. MEDDERS, JR., Wichita Falls independent, has been elected chairman of the State Action Committee, coordinating unit of statewide and regional independent producer groups in Texas. He succeeds **Harry Jones,** president of the Texas Independent Producers & Royalty Owners Assn.

E. C. PURTELL has been named manager of the motor transport department of Standard Oil Co. of California, with offices in San Francisco. He succeeds **L. S. Bessonett,** who retires after 42 years with the company. Purtell has been assistant manager of the department since 1947. He joined the company in 1922, and served in the marketing organization before joining motor transport in 1932.

E. C. Purtell

W. E. Spear

WILLIAM E. SPEAR transfers from Denver to Los Angeles as senior mechanical engineer in the production department at Shell Oil Co.'s Los Angeles office. Spear, with Shell since 1933, held the same position in Denver.

GLADYS WATFORD, Houston, secretary to **Ralph A. Johnston,** independent oil operator, becomes head of the Assn. of Desk & Derrick Clubs of North America for 1960. Directors representing the eight regions in 1960 are: **Phyllis W. Townsend,** Bethesda, Md.; **Emily Fairbanks,** Kansas City, Mo.; **Gladys R. Adams,** Shreveport; **Gloria Caravantes,** Corpus Christi; **Doris Southall,** Amarillo; **Vivian Stephens,** Maysville, Okla.; **Sara Winters,** Denver; and **Luella Ulrich,** Seattle.

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT • BUSINESS EQUIPMENT — USED OR RESALE

OPPORTUNITIES

DISPLAYED RATE

EQUIPMENT & BUSINESS OPPORTUNITY advertising $16.75 per inch.

EMPLOYMENT OPPORTUNITIES—$28.80 per inch, subject to Agency Commission.

UNDISPLAYED RATE

(Not available for equipment advertising)

$1.80 a line, minimum 3 lines.

POSITIONS WANTED undisplayed rate is one-half of above rate, payable in advance.

Box Numbers—Count as one line.

Discount of 10% if full payment is made in advance for 4 consecutive insertions.

POSITION WANTED

Former drilling contractor and oil producer that has recently sold out is interested in making contact with an individual, group or company to manage and supervise their oil and gas operations, domestic or foreign. Location immaterial. R. Makin, Box 1628, Petroleum Building, Hobbs, New Mexico.

PIPE FOR SALE

18,000 ft.—3½" OD, 7.58# No. 1 Grade Used L.W. Line Pipe, P.E. Beveled.

20,000 ft.—4" OD x .156 W., 6.41# Used Seamless Tubes, arp. 40' lengths, P.E. Beveled.

40,000 ft.—4½" OD x .237 W., 10.79# Used No. 1 Grade L.W. Line Pipe, P.E.B.

3,800 ft.—4½" OD x .165 W., 8.63# Used Line Pipe, No. 1 Grade, P.E.B.

7,000 ft.—6⅝" OD x .188 W., 12.89# Used L.W. Line Pipe, P.E.B.

4,000 ft.—6⅝" OD x .280 W., 18.97# New E.W. Grade B Limited Service Line Pipe, P.E.B.

9,100 ft.—7" OD x .362 W., 26# New Seamless Limited Service Casing, P.E.B., Rge. 3.

2,700 ft.—8⅝" OD x .322 W, 28.55# Seamless Grade B New Limited Service Line Pipe, P.E.B. Rge. 3.

3,400 ft. 8⅝" OD x .352 W., 31.10# New Limited Service H-40 Casing, P.E.B.

1,000 ft.—8⅝" OD x .500 W., 43.39# Used Seamless No. 1 Grade Line Pipe, P.EB.

1,650 ft.—10¾" OD x .365 W., 40.48# New E.W. Limited Service Grade B Pipe, P. E. B.

90,000 ft.—12¾" OD x .375 W., 49.56# Used, L.W. Line Pipe, P.E.B.

14,000 ft.—18" OD x 11/64" W., Armco Spiralweld Used Line Pipe, Rge. 3, No. 1 Grade

2,450 ft.—18" OD x .312 W., 59.03# New Seamless Limited Service Line Pipe, P.E.B., Rge. 3

25,300 ft.—16" OD x .344 W., 57.48# Used L.W. Line Pipe, P.E. Beveled.

14,200 ft.—24" OD x 11/64" W., Armco Spiralweld Used Line Pipe, Rge. 3, Excellent Grade.

All above items and many other pipe sizes of various wall thicknesses available for immediate delivery.

PLEASE WRITE OR CALL

MID-STATES PIPE & SUPPLY CO.
OF LOUISIANA

Lu. 2-7231 Tulsa, Okla. P.O. Box 415

PIPE

500,000 ft 10¾" O.D. 35#
200,000 ft 12¾" O.D. 40#
200,000 ft 8⅝" O.D. 28#
20,000 ft 16" O.D. 42#

All Machine Cleaned. Plain End. No. 1 Grade.

INDIANA-OHIO PIPE CO.
P.O. BOX 5412 Shepard Sta. Phone CL 3-5527
COLUMBUS 19, OHIO

USED PIPE

50,000 ft. 4½" O.D. x .188 wall line pipe in good condition for sale. Will sell in ground or on reconditioned basis f.o.b. Falls City, Nebr. Will lease as installed pipeline on your property.

PIPE RENTAL & SUPPLY CO.
Farmington, N. M.

Box 906 Ph. DAvis 5-8281

'Mr. IPAA' Provided Leadership

RUSSELL B. BROWN is one of the most widely recognized oil men in the country today, despite the fact that he was never known as a driller, producer, or refiner of petroleum. As general counsel of the Independent Petroleum Assn. of America for 30 years, he had one assignment: to represent the independent producer.

He has done that with vigor. It's a striking testimonial to Russell Brown that few oil men can take him lightly. He is either loudly acclaimed or violently opposed. But he is respected.

To Wirt Franklin, of Ardmore, Okla., goes the credit for founding IPAA, but Russell Brown kept it alive. He earned the title "Mr. IPAA."

Russell first went to Washington in 1930 on a temporary assignment at the request of Franklin, to fight for a tariff on petroleum imports. Two years later he won his first victory.

And since that time, he has been in the middle of one of the most controversial issues ever to face any industry.

POSSIBLY OVERLOOKED in his career with the IPAA is that in fighting for the principle of a fair economic climate for the small independent entrepreneur in the oil business, he created recognition for independent producers who, in the feast-and-famine era of the late '20s, were faced with extinction because of the wasteful production practices that characterized the industry in the U.S. at that time.

Russell is the first to say that he did not do his job single-handed. But no one can deny that he provided the sorely needed leadership to accomplish the task before him.

PETROLEUM WEEK has not always agreed with his views. But we believe that he characterizes the type of dynamic leadership that the industry so urgently needs today.

LIKE THE SITUATION THREE DECADES AGO, the oil industry today is faced with a serious economic plight, due to its historical inability to use its available capacity wisely.

At the time Russell entered the oil industry, the problems caused by oversupply threatened producers primarily. Now the problem of oversupply threatens the entire industry.

Russell Brown will retire at the end of this year. This week, the industry honored him with a testimonial banquet. But we feel sure that the testimonial he would like the most would be to see the oil industry continue as a competitive, free-enterprise venture, run by individuals with leadership, rather than by the government.

Operators say:

BJ Tubing Swabs Fall Faster... Lift More... Last Longer!

results talk!

Typical User Comments about BJ Tubing Swabs

"The best swab I've ever used..."
"Not another swab can come close to it..."
"Lasts a lot longer than anything else I have used..."
"At least three times as good as the next best swab cup..."

Since they were introduced more than a year ago, BJ Hydrodynamic Tubing Swabs have proven themselves under the toughest down-hole conditions in every major oil field in the nation. Here, in these case history reports, is *proof* of that performance... proof that BJ Swabs actually put more fluid in the tank in less time, with fewer rubber replacements!

BJ Swabs Fall Faster

After comparing Brand X and the BJ Swabs in competitive runs, we found that BJ fell faster, pulled out more fluid in less time, and made 15 trips per set to Brand X's five.*

BJ Swabs Lift More

The Unit Operator had been making three trips with Brand X cups at approximately 6500 feet, adding 5″ per hour to the reserve tank. After the fourth run was made with BJ cups... the tank measurement was 12″ for 1 hour 10 minutes.*

BJ Swabs Last Longer

Production Superintendent said they had "made too many runs to count." The swab operator finally changed cups, although they were still in good working condition, but he "was ashamed to work them any longer." The cups were still pulling fluid.*

*Names and locations on request from your local BJ Field Representative.

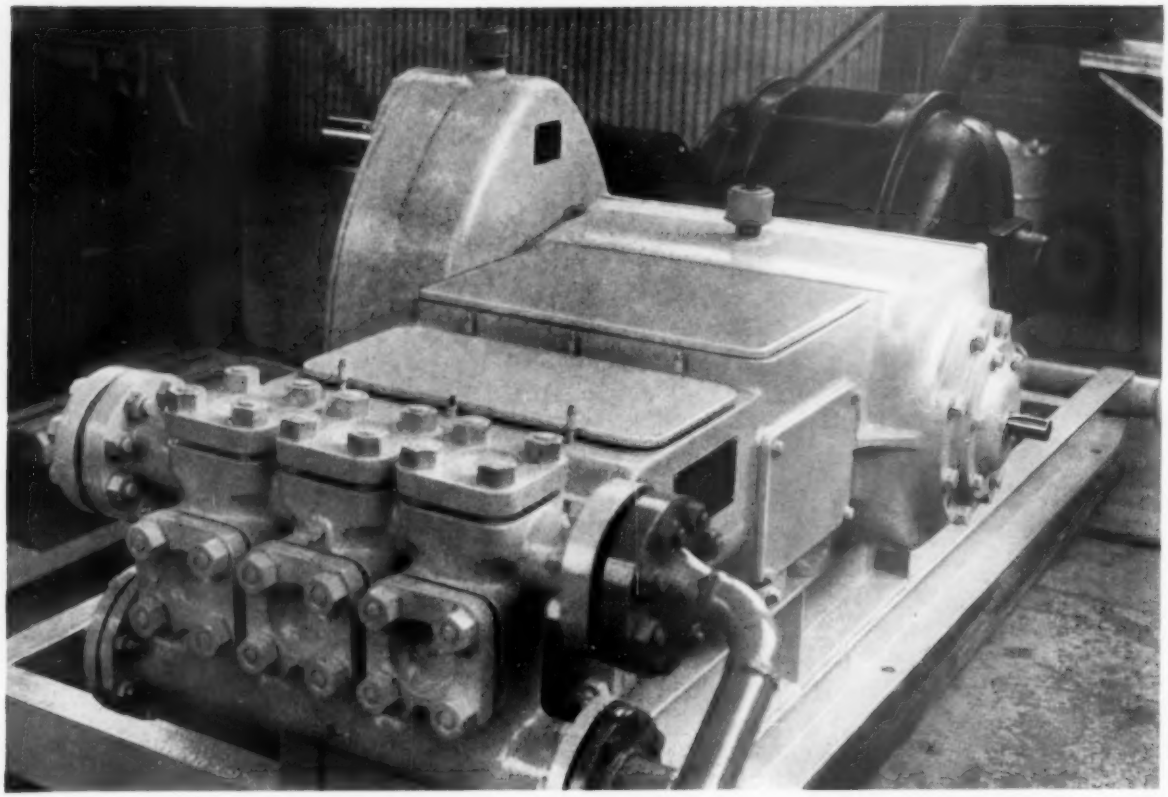
Your choice of BJ cup-type or disc-type swab rubbers for all standard tubing OD's. Also available – new macaroni tubing swabs. See your Supply Store or BJ Field Representative.

Sold through Supply Stores

Byron Jackson Tools, Inc.

A SUBSIDIARY OF BORG-WARNER CORPORATION

P.O. Box 2017-A, Terminal Annex, Los Angeles 54, California
Export Address: 580 Fifth Avenue, New York, N. Y.



Timken® double-row tapered roller bearings keep pump working without watching

IT practically runs itself. That's why this new Triplex Pump does so well on toughest oil field and industrial pumping jobs. It has larger shaft diameters, crossheads and bushings than any in its class. And to keep it running at full load continuously without watching, the crankshaft is mounted on two Timken® double-row tapered roller bearings. The two-row bearings allow precise clearance adjustment and freedom from knock at load reversals. So many machine builders use Timken bearings because they:

1) *Keep shafts positively aligned . . .* minimize deflections and end play. And Timken bearings are *tapered* to take any combination of radial and thrust loads.

2) *Deliver more for the money.* Better engineering service from graduate *engineer* salesmen; greater bearing service because of unmatched research and testing facilities; higher quality because we use the highest bearing-quality alloy steel available. And that steel is nickel-rich for extra toughness.

For better machines, be sure the ones you build or buy are Timken-bearing-equipped. ***When you buy Timken bearings you get . . .*** *1) Quality you can take for granted. 2) Service you can't get anywhere else. 3) The best-known name in bearings. 4) The pace setter in lower bearing costs.* The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable: "TIMROSCO". *Makers of Tapered Roller Bearings, Fine Alloy Steels and Removable Rock Bits.*

First in bearings for 60 years

BETTER-NESS rolls on

TIMKEN®

tapered roller bearings